HEROES OF THE ARCTIC

THE

HEROES OF THE ARCTIC

AND THEIR ADVENTURES.

AMONG THE ICEBERGS. *Frontispiece.*

THE

HEROES OF THE ARCTIC

AND THEIR ADVENTURES.

BY FREDERICK WHYMPER,

Author of "Travels in Alaska," etc.

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—

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TO

THE MEMORY OF

LADY FRANKLIN,

THIS

TRIBUTE TO THE HEROES OF THE ARCTIC

Is Dedicated by the Author,

AS TO ONE OF OUR

HEROINES,

WHOSE NAME WILL EVER LIVE IN THE HEARTS OF ALL TRUE ENGLISHMEN, THE TYPE OF WOMANLY DEVOTION, COURAGE, AND FORTITUDE.

PREFACE.

NO excuse seems necessary at the present time, when so much public interest is felt in the Polar Expeditions which have just left our shores, for the publication of the present work. The writer has endeavoured to indicate clearly the salient points in the lives of our Arctic Heroes, while in briefer form offering a connected history of exploration in the far north. The compilation has been a work of some labour—more than one hundred volumes have been consulted; and the author is indebted to his brother Edward (the author of "Scrambles in the Alps") for access to a most complete and valuable library of Arctic books. The standard works of Sir John Barrow, Sir John Richardson, and of Clements R. Markham, Esq., C.B., F.R.S., &c., have been freely consulted and used, as they must be by any writer attempting a volume of the kind.

Great Britain has taken by far the larger share in Arctic exploration, but in later years, more especially, several other nations have entered the

lists. The expeditions sent out by the United States, although few in number, have been specially fruitful in results. Dr. Kane did wonders, considering the limited facilities at his command, and his second work is to-day considered by the very best authorities as *the* model Arctic narrative. Dr. Hayes followed closely in his footsteps, while poor Captain Hall had, before his death amid the very scenes of his greatest exploits, the satisfaction of knowing that he had taken his vessel to a higher latitude than ever attained before in this manner. The German and Austro-Hungarian expeditions—important in results and most interesting in the narratives—have been described as fully as was possible in a work of limited size, and the writer has endeavoured to do impartial justice to the efforts and successes of the brave men of other nations, as well as to those of his own country.

The orthography of proper names in this work is always that of the authors quoted, and some minor differences will therefore be easily understood.

London, *June*, 1875.

CONTENTS.

CHAPTER I.

PAGE

The Heroes of the Arctic—Purchas, his Opinion—Britain's place in Arctic Discovery—Early History—The Phœnicians and the Carthaginians—Did they Discover America?—The Voyages of two Junks across the Pacific 1

CHAPTER II.

The Scandinavians early Rulers of the Sea—Discovery of Iceland—Flokko's Raven—Discovery of Greenland—Early American Settlers—Voyages of the Zeni—A Romance of the Early Days—Northern Voyages of Columbus 8

CHAPTER III.

The Cabotian Period—North-West Passages—Discovery of Canada—Unflattering Origin of the Name—Gomez and his Friend's Mistake—The First Advocate of Polar Exploration—Voyages of the *Trinitie* and *Minion*—First Intercourse with Russia—Burrowe—Sir Martin Frobisher—Sir Humphrey Gilbert—John Davis 18

CHAPTER IV.

PAGE

Willem Barents—First Voyage—Antipathy of Bears to Dutchmen—Second Voyage—Third Voyage—Spitzbergen—Winter Quarters—Vessel abandoned—Departure in the Boats—Death of Barents—Home again—Discovery of the Barents Relics by Carlsen . 28

CHAPTER V.

Fresh North-West Passages—Weymouth—Hudson's Four Voyages—Left to Die—Retribution—Baffin—Icebergs—Bylot and Baffin's Voyage—Smith Sound—The Fisheries—Sea-horse Hunting 40

CHAPTER VI.

Jens Munk—An Unlucky Voyage—Mortification and Death—The North-West Foxe—Origin of the Hudson's Bay Company—Unfortunate Voyages—Knight's Expedition—Starvation—The Two Survivors—Hopeless Abandonment—Dobbs and Middleton—£20,000 offered for the Discovery of a North-West Passage . 53

CHAPTER VII.

The Polar Ocean—Russian Discoveries—The Two Unconquerable Capes—Siberian Coasts—Peter the Great—Vitus Bering's Voyages—Discovery of the Straits—Off the Aleutian Isles—Shipwreck and Scurvy—Death of Bering—The Ivory Islands—New Siberia—Wrangell's Ice Journeys—Wrangell's Land . . 65

CHAPTER VIII.

Remarkable Break-up of Ice—The North-West Problem again—John Ross—The Croker Mountains sailed over—Avalanches of Ice—Icebergs—Parry's First Command—Winter at Home in the Arctic—Sabine's Experiments 73

CHAPTER IX.

PAGE

Parry's Second Voyage—Disastrous Voyage of the *Griper*—A Noble Crew—Advantage of Discipline—Parry's Fourth Winter in the Arctic—His Polar Boat Voyage—Broken Ice—Labours of Sisyphus—Return to England 85

CHAPTER X.

Franklin's Early Career—The Fight at Copenhagen—Explorations on the Australian Coasts—His Tutor, Flinders—Wrecked on a Reef in Torres Straits—Life on a Sand-bank—Trafalgar—Wounded at New Orleans—Commencement of his Arctic Experiences . 97

CHAPTER XI.

Franklin's Land Journey—Hudson's Bay Territory—Intense Cold—Effects of Freezing—Spring Musquitoes—Down the Coppermine River—Sea Travel by Canoe—Return—Terrible Sufferings of the Party—Deaths from Exhaustion—Murder of Hood—Retaliation—Home again—Second Land Journey of Franklin 104

CHAPTER XII.

Sir John Franklin's Last Expedition—The Last Letters—Alarm felt in England—Searching Expeditions organised—Dr. Rae's Discoveries—The First Relics—Appeal to the Government—Noble Lady Franklin—M'Clintock's Voyage—The *Fox* in the Pack—Eight Months in the Ice—Winter Searches—Hobson and M'Clintock's Discoveries—The Wrecked Ships—Relics obtained—The Skeleton on the Beach . . 119

CHAPTER XIII.

PAGE

The Record at Point Victory—Its sad Story—The Abandoned Ships—Death of Franklin—Crozier's Departure with the Crews—The Deserted Boat—The Two Skeletons—Voyage Home of the *Fox* . . 133

CHAPTER XIV.

Kane's Expedition—The *Advance*—Outfit—Visits to Greenland Settlements—Smith Sound—In the Ice—A Close Shave—Nippings—The Glacier of Humboldt—Winter Quarters 142

CHAPTER XV.

Return of the Exploring Party—A Fearful Story—To the Rescue—The Camp on the Ice—Gratitude—Frozen Sleep—Travel in a Dream—At the Brig again—Sickness and Suffering—Baker's Death . 157

CHAPTER XVI.

Interview with the Esquimaux—A Treaty—Hospitality on Board the Brig—Native Astonishment—Impulsive Feeling—Greenland Gratitude 165

CHAPTER XVII.

A Spring Journey—Fearful Effects of the Scurvy—Bears at the Pemmican—Kane's Prostration—Five Brave Men—Return to the Brig—Schubert's Death—Spring again 172

CHAPTER XVIII.

Still Beset in the Ice—A Council called—Eight Men Stand by the Brig—The Deserters—Return to the Vessel—Their Sufferings—The whole Party broken down—The Dismantled Brig abandoned—Last Day on Board 181

CHAPTER XIX.

PAGE

Death of Ohlsen—A Parallel with Barentsz—Terrific Gale—Grinding, Piling Ice—Safe on the Ice-cliff—Start again—Killing a Seal—Ravenous Appetites—Safe Return to the Settlements 187

CHAPTER XX.

Hayes' Attempt to Reach Upernavik—Dangers of the Route—Six Miles in Three Days—Severe Storms—A Hut Constructed—Visits of the Esquimaux—Treacherous intents of the Natives—A desperate *Ruse*—A Narcotic Stew—Flight and Pursuit—The Brig reached at last 196

CHAPTER XXI.

Hayes' Polar Expedition—The Schooner *United States*—Port Foulke—A Difficult Journey—Objects of the Exploration—Morton's furthest Point excelled—Another Glimpse at the open Polar Sea—Rotten Ice—View from a Headland—Return to the Schooner . 204

CHAPTER XXII.

M'Clure and the North-West Passage—The Fate of Bellot—Expeditions to the East Coast of Greenland—Impenetrable Ice—Voyages of the *Erik* 214

CHAPTER XXIII.

Swedish Expeditions—Scientific Result—Voyage of 1868—Among the Ice—High Latitude attained—The *Sofia* dashed on an Ice-block—All Hands to the Pumps—The Leak stopped—The Ship's Ribs broken—Return to Norway 220

CHAPTER XXIV.

PAGE

Dr. Petermann's Efforts in the cause of Geographical Science—Koldewey's First Expedition—Enormous Icebergs—The Second German Expedition—Building of the *Germania*—The Scientific Corps—Departure from Bremerhaven—The Two Vessels separated among the Grinding Ice—The *Hansa* lifted bodily out of the Water—Wreck of the *Hansa*—Life on a Drifting Floe 226

CHAPTER XXV.

Philosophical Resignation—Christmas on the Drifting Ice-field—Fearful Storms—The Floe diminishing in Area—Their House ruined—The Spectre Iceberg—Drifted 1,100 Miles on the Ice-raft—An Island reached—Welcome at Friedrikstahl—Voyage of the *Germania*—Winter Quarters—Christmas on Board—Adventure with a Bear—Discovery of Coal . . 237

CHAPTER XXVI.

Hall's Life among the Esquimaux—The *Polaris* Expedition—Highest Latitude yet attained—Death of Hall—The Party divided—Nineteen Souls adrift on a Floe—Rescued at last—The Steamer abandoned—Smith Sound and the present Expedition . . . 246

CHAPTER XXVII.

The Austro-Hungarian Expedition—The *Tegethoff* beset in the Ice for Two Years—In great danger—A New Land discovered—The Torments of Tantalus—Sledge Expeditions—Description of Franz Josef Land—The Steamer abandoned—Long Boat Journey . . 252

CHAPTER XXVIII.

PAGE

Explorations of the Glaciers of Greenland—Difficulties of Spring Travelling—Canine Perversity—The Russian-American Telegraph Expedition — Northernmost America and Asia—Bush's Remarkable Journey—Siberia and Kamchatka—The Great Yukon—Exploration of Alaska 260

CHAPTER XXIX.

Discovery of the North Pole claimed by an English Sailor—A Survivor of the Franklin Expedition—Journey to the Pole—A Warm and Fertile Region—Fields and Villages—Domesticated Walrus—Query, a *canard* 276

CHAPTER XXX.

The Arctic Expedition of 1875—The *Alert* and *Discovery*—Captain Nares' Views—Sir Leopold M'Clintock on Sledge Travelling—Improvements adopted—Lady Franklin's Letter—Allan Young's Expedition—Voyage of the *Pandora*—Closing Remarks—True Heroism—Our Heroes 285

LIST OF ILLUSTRATIONS.

	PAGE
Among the Icebergs	Frontispiece
Flokko despatching the Raven	10
Sir Humphrey Gilbert . . . . . (to face)	26
Bear shot dead while looking into a beef barrel . .	32
Barents' House	38
Hudson abandoned . . . . . (to face)	45
No hope!	61
Parry on the Ice . . . . . (to face)	94
"And as they fell, they died!" . . . (to face)	139
Franklin's Signature	141
Kane's Brig	143
Humboldt's Glacier	156
Aurora Polaris . . . . . (to face)	181
Bellot's Death . . . . . (to face)	215
The "Crow's Nest"	229
Wreck of the *Hansa* . . . . . (to face)	234
Sledge for the 1875 Expedition	289
Map of the Arctic Regions . . . (end of volume).	

HEROES OF THE ARCTIC.

CHAPTER I.

The Heroes of the Arctic—Purchas, his Opinion—Britain's place in Arctic Discovery—Early History—The Phœnicians and Carthaginians—Did they Discover America?—The Voyages of two Junks across the Pacific.

THE Heroes of the Arctic! Conquerors of the elements, pioneers of science and commerce, who have dared to beard the Ice King in his own domain! How many grand names the title of this book recalls! nobler far than bravest knights of old—names which will live when wealth, and pomp, and power have had their day. How many instances shall we find of dauntless courage in the face of untold peril, rare piety, stern self-abnegation, perseverance when the hope was, indeed, forlorn, fortitude under every trial. Well might old Purchas exclaim, long before the pinnacle of Arctic glory had been reached: "How shall I admire your heroicke courage, ye marine

worthies, beyond all names of worthiness! that neyther dread so long eyther presence or absence of the sunne; nor those foggy mysts, tempestuous windes, cold blasts, snowes and hayle in the ayre; nor the unequall seas, which might amaze the hearer, and amate the beholder, where the *Tritons* and *Neptune's* selfe would quake with chilling feare, to behold such monstrous icie ilands, renting themselves with terrour of their own massines, and disdayning otherwise both the sea's sovereigntie, and the sunne's hottest violence, mustering themselves in those watery plaines where they hold a continual civill warre, and rushing one upon another, make windes and waves give backe."

It was fitting that Britain, so long "ruler of the main," should be the foremost in these adventurous expeditions. Nevertheless these pages will be found to contain as full acknowledgment and appreciation of the services to science so often displayed by other nations, as the space at command will permit.

Three hundred years ago Sir Martin Frobisher, speaking of the north-west passage, said: "It is the only thing in the world that is left yet undone, whereby a notable mind might be made famous and fortunate." "The North Polar region," says Mr. Markham, a most competent authority on all geographical questions, "that immense tract of hitherto unpenetrated land and sea which surrounds

one end of our earth, is the largest, as it is the most important field of discovery that remains for this generation to work out." Enthusiasm on these subjects can scarcely be said to have ever ceased in England, from the Middle Ages till our own time, when the most civilised countries have been, and are, competing for the glory of solving the Polar problem. Franklin and M'Clure virtually settled for ever the question of a north-west passage.

While scientific research is the actuating motive now-a-days for expeditions toward the polar region, it has not always been so. Various causes have impelled men in this work during past ages. The hopes of finding an open north-western or north-eastern route to the Orient, the formation of colonies, reported mineral discoveries, fisheries, and other commercial speculations have been the direct causes of hundreds of ventures. The following pages record many such. *Now*, the motive is nobler. We have no need for an icy route to Cathaia; we have no expectation of commercial advantage from the exploration of the North Pole. We simply hope once and for ever to settle a scientific problem, or set of problems. If it is to be done, England will do it.

The ancient historians tell us little concerning the Northern Atlantic Ocean. The inevitable loss,

by fire or pillage, of manuscripts which now-a-days, copied or printed, would have an incalculable value to the historian and geographer, renders our knowledge of their early voyages very incomplete. The Phœnicians did, undoubtedly, discover the western coasts of Europe, besides proceeding more or less toward the north. Tin, one of the staple commodities sought by them in their ventures, was obtained from Cornwall ; indeed, many suppose that *all* of that metal mentioned in ancient history was brought from Britain, and thus the intercourse between the Mediterranean and our country must have commenced at a very early period. Tin is specially mentioned in the Book of Numbers (chap. xxxi. 22), and in many of the earlier books of Holy Writ ; also by Homer, Herodotus, and other ancient writers. It has also been inferred that the Phœnician ships had entered the Baltic—amber, a known article of their commerce, being principally found, even at the present day, on the shores of that sea. The Phœnicians and their Carthaginian descendants were the only rulers of the sea in those days, and they enjoyed a monopoly of traffic and commerce long before the Romans possessed a fleet at all. It is therefore certain that many voyages of importance were made of which all record is lost. Pliny asserts that Hippus, a Phœnician, constructed the *first* merchant ship,

probably meaning that he built one of extraordinary size for that time. The Carthaginians were the first people who directed their course at sea by the fixed stars, and they were the great colonisers of their epoch. As early as 1130 B.C. they settled many of the Mediterranean islands and the coasts of Spain; later, Madeira and the western coasts of Africa. Hanno's fleet of sixty ships is said to have carried 30,000 colonists to the west coast of Africa, and whatever measure of exaggeration there may be in this statement, it is certain that their vessels must have been of considerable tonnage. Strabo counts two hundred towns in Spain, and more than three hundred in Africa, as the direct result of Phœnician enterprise. The fleet of Himilco (a contemporary of Aristotle, about 340 B.C.), sent out expressly to colonise Western Europe, reached Wales, Cornwall, and islands described as the Æstrymnides, which are believed to be identical with the "Tin Islands" of the Greeks, which latter are further supposed to include England, Scilly, and the Isle of Man. But trading voyages had been made by the Carthaginians to Britain long before Himilco's time, and they further worked the tin mines themselves, and even pursued agriculture near their maritime ports. Brass implements, very antique swords and glass beads, dug up in Cornwall and Ireland, have been attributed to Carthaginian manufacturers.

After the port of Massilia (Marseilles) had been founded, Pytheas, a Phocean, sailed thence through the Straits of Gibraltar northwards, and then eastwards into the Baltic. Strabo, the historian, states many facts on the authority of this navigator, among them that *Thule* was the northernmost of the British Isles, and was situated on the Arctic circle. Pliny speaks of an icy region, the Cronian Sea, a day's sail beyond Thule, which he describes as the last of the islands off the Germanic coast. He adds that it has neither night in the height of summer, nor day in the middle of winter. He also mentions *Scandinavia*, by name, as an *island* of the Baltic, and specifies other islands in the Cattegat. His reference to *Nerigon* is generally supposed to refer to Norway.

Sir John Richardson considers that these and other indefinite allusions prove that "the Romans, even as late as Pliny's time, had no correct knowledge of the North Sea and Baltic," but that their imperfect information had been derived second-hand from the Carthaginians. Nevertheless the above brief mention of these early voyages will indicate, that, as a result of commercial enterprise, or accident, some slight knowledge had been acquired concerning the regions of the north bordering on the Arctic. Some have even conjectured, from obscure allusions in the works of Greek and Roman

authors, that Phœnician vessels may have been driven across the Atlantic, and that the discovery of a western continent may have been made at a period long ante-dating the discoveries of the Scandinavians, Columbus, or the Cabots. There is nothing improbable in this: two Japanese junks, which had been blown out to sea, were driven across the Pacific Ocean in the winter of 1832-3; one was wrecked on the N.W. coast of America, the other reached a harbour in the Sandwich Islands, with nine Japanese alive on board. These facts are well authenticated by facts published in the works of Sir Edward Belcher and Washington Irving.

CHAPTER II.

The Scandinavians early Rulers of the Sea—Discovery of Iceland—Flokko's Raven—Discovery of Greenland—Early American Settlers—Voyages of the Zeni—A Romance of the Early Days—Northern Voyage of Columbus.

ALTHOUGH the Romans conquered Britain at a period when their naval armaments were by no means inconsiderable,* they did nothing towards solving the problems connected with the far north. During their rule, as far as can be gleaned, their voyages were confined to the immediate coasts of our island, and when they withdrew, the art of navigation was not much pursued by the Britons themselves. The Frisians, above all the Saxon tribes that overran England, were the best seamen, but we hear nothing of an English fleet until the days of good King Alfred. He constructed vessels of a size considered large in those times, and with the aid of Frisian officers and seamen, gained a decisive

* Cæsar took ninety-eight merchantmen from the vessels then employed on the inland or narrow seas, capable of transporting over 8,000 men, on the first invasion of Britain.

victory over the Northmen pirates. Nevertheless the Scandinavians were the real maritime rulers of the eighth, ninth, and tenth centuries. For two hundred years they incessantly ravaged the coasts of Britain, Ireland, Saxony, Holland, and Flanders; penetrated the very heart of France, pillaging and burning Paris, Amiens, Orleans, Bordeaux, and other of the larger cities, even settling at the mouth of the Rhone, from whence they ravaged Provence and Dauphiné. But although their warlike exploits carried terror and ruin wherever they went, they did some little good by colonising unknown countries.

In the year 867 the vessel of Nadd-Odd, a Norwegian viking, bent on a piratical excursion to the Faroe Islands, was driven by a gale so far to the north-westward, that he reached an island, to which, from the amount of snow found on the mountains, he gave the name of *Snow-land.* Others soon followed, among them one Flokko, a Swede. The mariner's compass was then unknown; he had taken the precaution of providing himself with a raven, which, let loose, is said to have guided him in the desired direction. He passed the winter on the island, and from the quantities of drift-ice seen by him, changed its name to that which it at present bears, Iceland. Later, a number of Norwegian colonists, taking with them their household

goods, implements, and cattle, made the first settlement. It is stated in the Icelandic annals that the Norwegians found crosses, bells, and books near the shore, indicating that others had preceded them. It is generally believed that these relics of Christian worship were of Irish origin, and the legends of

FLOKKO DESPATCHING THE RAVEN.

that country, and the short distance from it, favour the idea. If two frail junks could safely voyage across the North Pacific Ocean, surely the strong Irish craft might have reached Iceland.

While the Iceland colony was yet in its infancy, one Gunbiörn, a fisherman, was drifted out in his

boat a considerable distance to the westward, where he discovered an extensive land which he did not attempt to explore. About the year 982, Eric Rauda, or Eric the Redhead, having been convicted of manslaughter, was sentenced to several years' banishment from Iceland. He with his followers prepared a vessel, and set sail in a westerly direction, and at length reached the east coast of Greenland, along which he steered southward, doubling the headland now known as Cape Farewell. Having spent three years in the exploration of this new country, he returned to Iceland, there giving a lively description "of its green and pleasant meadows," and the "abundance of fine fish on its coasts." Many colonists determined to settle there, and no less than twenty-five vessels left Iceland, one-half of which were lost in the ice, the remnant reaching Greenland safely.

It is very interesting to mark the gradual but certain course of geographical discovery. The occupation of Greenland virtually led to the discovery of America. One Bjarni, intending to sail from Iceland to Greenland, encountered thick stormy weather, and was driven on an unknown woody coast, far to the southward of his destination, now believed to have been that of Nantucket Island, south of the State of Massachusetts. He afterwards passed several of the headlands of

Newfoundland and Labrador, and at length reached Greenland. The further discoveries of Leifr, who reached Rhode Island, and who explored the coasts of Newfoundland, Nova Scotia, &c., do not come within the scope of the present work. It is not uninteresting, however, to know that "the first child of European extraction born in America was Snorre Thorfinnson, who saw the light near the site of the existing town of Taunton," during the progress of Leifr's expedition. The intercourse between Greenland and America was continued to the fourteenth century, principally for the purpose of obtaining wood, but no colonies were formed.

The voyages of the brothers Zeni have been, until a very recent date, looked upon as purely mythical. The careful researches of R. H. Major, F.S.A., one of the secretaries of the Royal Geographical Society, have put the matter in an entirely new light. Briefly their history is as follows :—At the close of the fourteenth century Nicolo Zeno, a member of a noble Venetian family, started on a voyage of discovery in the northern seas. He was wrecked on the Faroe Islands, where the Earl of Orkney and Caithness took him into his service as pilot. The earl was one of the noble freebooters of his time, ambitious as a sovereign for conquest. After a year or two Nicolo sent for his brother Antonio. The letters and journals of these re-

markable men were only partially preserved, but from them we glean that a visit was made by Nicolo to Greenland. "Here, already," writes Mr. Major, "he found a monastery of friars, preachers, and a church of St. Thomas, close by a volcanic hill. There was also a hot-water spring, which the monks used for heating the church and the entire monastery, and by which they cooked their meat and baked their bread. By a judicious use of this hot water they raised in their small covered gardens the flowers, fruits, and herbs of more temperate climates, thereby gaining much respect from their neighbours, who brought them presents of meat, chickens, &c. They are indebted, the narrative says, to the volcano for the very materials of their buildings, for by throwing water on the burning stones, while still hot, they convert them into a tenacious and indestructible substance, which they use as mortar. They have not much rain, as there is a settled frost all through their nine months winter. They live on wild fowl and fish, which are attracted by the warmth of that part of the sea into which the hot water falls, and which forms a commodious harbour. The houses are built all round the hill, and are circular in form and tapering to the top, where is a little hole for light and air, the ground below supplying all necessary heat. In summer time they are visited by ships from the

neighbouring islands, and from Trondheim, which bring them corn, cloths, and other necessaries in exchange for fish and skins. Some of the monks are from Norway, Sweden, and elsewhere, but most of them from Shetland. The harbour is generally full of vessels detained by the freezing of the sea, and waiting for the spring to melt the ice. The fishermen's boats are like a weaver's shuttle: they are made of the skins of fish, and sewn together with fish-bones in such a manner that, in bad weather, the fisherman can fasten himself up in his boat and expose himself to the wind and sea without fear, for they can stand a good many bumps without receiving any injury. In the bottom of the boat is a kind of sleeve tied fast in the middle, and when water gets into the boat they put it into one-half of the sleeve, close it above with two pieces of wood, and loose the band beneath, so that the water runs out. The friars are liberal to workmen, and to those who bring them fruit and seeds, so that many resort to them. Most of the monks, especially the principals and superiors, speak the Latin language; and this is all that is known of Engroneland (Greenland) as described by Messire Nicolo Zeno." These facts have been often recorded and discussed, but Mr. Major's confirmation of them from a Greenlandic record puts the matter beyond dispute.

Antonio Zeno remained in the service of the earl for some time after his brother's death, and he has recorded the reports of fishermen who had undoubtedly reached North America.

The story is a romantic one. Four fishing boats were driven by a gale on a new land, one of them being wrecked. The six men comprising the crew were "brought by the natives into a large and populous city, and taken before the chief, who sent for many interpreters to speak with them. Only one of these, who spoke Latin and had also been cast by chance upon the island, could understand them." They were desired to remain in the country, which they did. The people were intelligent, and possessed of knowledge of arts. "In the king's library were found several Latin books." In the south there was a rich and populous country where gold was found. "Their foreign intercourse was with Engroneland, whence they imported furs, brimstone, and pitch." They cultivated corn and made beer, a proof that the country had been peopled from Northern Europe or from the Greenland colonies. The fishermen, knowing more of navigation than the people of the country, were held in high esteem. They made a long journey to a country named Drogio, accompanied by a convoy of the natives. On arrival the latter were killed, but the fishermen were spared, because they

understood various arts, as catching fish with nets, &c. "They were so much prized on this account that a neighbouring chief made war on their master to get possesion of them, and being the stronger, succeeded. In this way they spent thirteen years, being fought for and won by more than twenty-five chiefs in that time." The country and natives are described, and would tally in part with the conditions then of the present Southern States of North America, and Mexico. At length one of them escaped, and after innumerable vicissitudes reached his own country, and reported to the Earl of Orkney his many adventures.

Mr. Major, in his interesting vindication, proves without question that the long lost and long sought east colony of Greenland was on the *west* side, and that there were European settlers in America a century before the great voyage of Columbus.

Cristoval Colon (Columbus), previous to the voyages which have immortalised his name, sailed some distance toward the north, visiting both the coasts of Iceland and Greenland. No sufficient record of this voyage is extant, and we are left ignorant of its object, although it was made in all probability with the view of reaching the Indies by a north-western, or possibly even a north-eastern route. The Orient, the Cathaia of those days, was the proposed goal of a large part of the adventurous

voyages made, and to sail "by the west into the east" was the ambition of the most distinguished navigators. It must be remembered that the rich products of India had not yet reached Europe by the Cape of Good Hope, but that they were transported overland. Not till 1498 did Vasco da Gama first reach India by doubling the Cape. Further, the existence of any obstacle to sailing westward to India, in the shape of a great American continent, was not known. Even when, in 1492, Columbus discovered San Salvador, he believed that he had reached the *East* Indies, and to this day we, in using the generic term bequeathed to us, have to distinguish between the West and East Indies (or Hindostan).

CHAPTER III.

The Cabotian Period—North-West Passages—Discovery of Canada—Unflattering Origin of the Name—Gomez and his Friend's Mistake—The First Advocate of Polar Exploration—Voyages of the *Trinitie* and *Minion*—First Intercourse with Russia—Burrowe—Sir Martin Frobisher—Sir Humphrey Gilbert—John Davis.

DURING the reign of Edward IV. a Venetian merchant, Giovanni Cabota (or Cabot), settled in Bristol. Three sons, Ludovico, Sebastian, and Sancio, were associated with him in his various enterprises; and to them has been often erroneously ascribed the discovery of North America up to the Arctic, the previous voyages of the Greenland colonists having been overlooked. Their voyages were, however, fruitful in geographical results, and one of them was the first attempt (unless that of Columbus be admitted) at a north-west passage. The actual results were, that they explored much of the northern coasts of America; and Sebastian also, while temporarily in the service of Spain, discovered the Rio de la Plata in Brazil. The Pope's legate in Spain, at that period, reported a conversation with Sebastian

Cabot, in which the latter said:* "In that time when Don Christoval Colon, the Genoese, had discovered the coasts of India (*i.e.*, the West Indies), in which there was great talke in all the court of King Henry VII., who then reigned; insomuch that all men, with great admiration, affirmed it to be a thing more divine than humane to saile by the west into the east, where spices growe, by a way that was never known before; by his fame and report there increaseth in my heart a great flame of desire to attempt some notable thing; and understanding, by reason of the sphere, that if I should saile by way of north-west I should, by a shorter tract, come into India, I thereupon caused the king to be advertised of my devise, who immediately commanded two caravels to bee furnished with all things appertayning to the voyage, which was, as farre as I remember, in the year 1496, in the beginning of summer; I began therefore to sail toward the north-west, not thinking to find any other land than that of Cathay, and from thence to turn toward India; but after certaine dayes, I found that the land ranne toward the north. . . to the 56 degree under our pole. And seeing that there the coast turned to the east, despairing to find the passage, I turned backe again, and sailed downe by the coast of that land toward the equinoctiall,

* Ramusio, as translated by Hakluyt.

(ever with intent to finde the saide passage to India), and came to that part of this firme land which is now called Florida, where my victuals failing, I departed from thence, and returned into England." The Cabots on this voyage brought home three natives of Newfoundland. "These savages were clothed in beasts' skins, and did eate raw flesh, and spake such speach that no man could understand them: and in their demeanour like to bruite beastes."

About 1463 the Portuguese despatched John Cortereal to explore the northern seas, and in 1500, a second and more important expedition under Gaspar, son of the first named, was sent on the same errand. The results of these voyages were a more complete knowledge of the Labrador and Newfoundland coasts, and it is now admitted that Gaspar discovered Canada, and the great river St. Lawrence. Incidentally we may note that the Portuguese, having discovered that the St. Lawrence was a river, and not a strait by which a direct passage to India might be discovered, disappointedly exclaimed, "*Cà nada!*" ("Here, nothing"), and by this uncomplimentary title are our prosperous colonies known to this day. Others say that the etymology of the word is "*Aca nada!*" ("There is nothing here!"), which, however, amounts to about the same thing. French navigators, after these

discoveries, made many voyages to Newfoundland and the St. Lawrence, the Normans and Bretons repairing thither for the purpose of fishing.

In the year 1524, Estevan Gomez was employed by Spain, with the object of discovering a northern passage to the Malacca Islands from the Atlantic. He brought home no fresh information, but had with him a number of the natives of Labrador or Newfoundland. On his return one of his friends inquired what success he had achieved; Gomez replied, briefly, *esclavos* (slaves), and his acquantance mistaking the word for *clavos* (cloves), "posted off to the court to carry the first news of this spicy discovery, looking for a great reward; but the truth being known, caused hereat great laughter." Purchas justly observes of this voyage, "little is left us but a jest." The Spaniards were unsuccessful in several other northern expeditions, including that of Cabrillo in 1544.

Some years previously, in 1527, Henry VIII. despatched, at the instance of Robert Thorne, of Bristol, "two faire ships, well manned and victualled, having in them divers cunning men, to seek strange regions" in the far north-west. These "cunning" adventurers were not very successful, for one of their vessels was lost, and the other returned without having accomplished aught. The expedition, however, deserves special mention, inasmuch as Thorne

was the first recorded advocate of polar exploration. In his "exhortation" to the King, after arguing in favour of a north-west passage, followed by a southerly course "to the equinoctiall lyne," which might "hitte these islandes" (the Spice Islands) and India, he offers "very weighty and substantial reasons to set forth a discoverie *even to the North Pole.*"*

How general an interest was felt in these northern expeditions at that time may be inferred from the voyages of the *Trinitie* and *Minion*, in 1536, in which Master Hore of London was accompanied by many gentlemen from the Inns of Court and of Chancery, "and divers others of good worship, desirous of seeing the strange things of the world"; of sixty persons on board, thirty were private gentlemen or merchants. After spending some time on the coast of Newfoundland, their provisions failed, and they had to seek herbs and roots, and robbed "the nest of an osprey, that brought hourely to her yonge great plentie" of fishes. Their needs increased, and led to a sad tragedy. One of the men killed his mate, "while he stooped down to to take up a roote," and cutting up his body in pieces "broyled the same on the coles, and greedily devoured them." Others seemed to have shared the same fate, for several were missed; where-

* Hakluyt, vol. iii., p. 129.

upon the captain "stood up and made a notable oration . . . and vouched the Scriptures from first to last what God had, in cases of distresse, done for them that called upon Him." The crew and those on board had just agreed among themselves to cast lots who should be killed, when a French vessel arrived, and without more ado our adventurers "became masters of the same, and changing ships and vittailing them they set sayle to come into England." It is but just to add that Henry VIII. afterwards recompensed the Frenchmen.

In 1548 Sebastian Cabot returned to England, and was for his many services appointed "Grand Pilot," with a pension of £166 13*s.* 4*d.* per annum, and "Governour of the mysterie and companie of the marchants adventurers for the discoverie of regions, dominions, islands, and places unknowen" At his suggestion a voyage was organised to discover a *north-east* passage to Cathaia. Three vessels were employed, and Sir Hugh Willoughby placed in command. Two of the ships were wrecked, and the brave commander and seventy merchants, officers, and crew perished miserably on the barren coast of Lapland. Better fortune attended the third vessel, commanded by Richard Chancelor, who succeeded in reaching Wardhuus in Norway, the appointed rendezvous of the little fleet. He awaited fruitlessly some time the arrival of the other vessels,

when he again set sail, and eventually landed on an unknown coast, which proved to be Muscovy, or Russia. Chancelor travelled 1,500 miles to Moscow, where he was well received, and his enterprise led to the opening of our commercial relations with that great empire.

Still another north-eastern voyage was made. Steven Burrowe, in 1556, appointed by the new Muscovy Company to the command of a pinnace, sailed from Gravesend amid great rejoicings, old Cabot, then in his 88th year, dancing and banquetting with the younger people on board. A small Russian vessel accompanied them. They encountered much ice, and were terribly frightened by a whale, which lay so near them that a sword might have been thrust into it. The results of this voyage were a partial exploration of Nova Zembla, the Vaigat Islands, and the mouth of the Dwina. Meantime Chancelor, who had made another voyage to Russia, was returning to England with three vessels, all of which were wrecked, himself and most of his crew perishing, near Pitsligo, on the east coast of Scotland. The Russian ambassador, who had been sent with them, was saved.

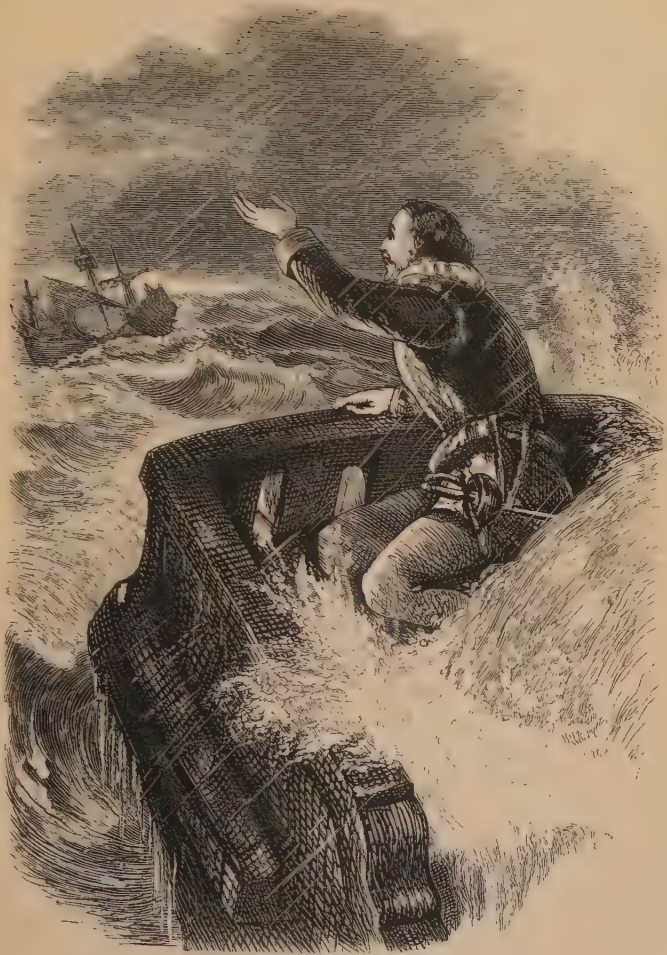
In 1576, Sir Martin Frobisher started on the first of the three north-western voyages which have made his name famous. He had, for fifteen years, been agitating the subject before he was, by the

assistance of the Earl of Warwick and one Michael Lok, enabled to organise an expedition. Her Majesty Queen Elizabeth took great interest in these voyages, which resulted in a more complete knowledge of the Greenland coasts, straits, and islands. Frobisher brought home from his first voyage some black stone which was supposed to have contained gold, and it was submitted to an assayer, who "by coaxing nature, as he privately admitted to Michael Lok," pretended to obtain a grain of the precious metal. A "gold excitement" seems to have immediately prevailed, and a second voyage was made, although the Master of the Mint had reported adversely on the ore. Three vessels were loaded with the worthless rock, and also some supposed silver ore, and reached England safely. In 1578 no less than fifteen vessels were despatched to these bogus mines, and one hundred persons appointed to form a settlement in the newly discovered country, to which the Queen gave the name of *Meta incognita.* After many perils from storms, fogs, and ice, the vessels separating one from the other, the fleet returned to England, and the voyage ended in complete disappointment, both as regards the settlement and the mines.* Frobisher afterwards fought bravely in the service of his country,

* Poor Lok, who had advanced money and made himself surety for Frobisher, was ruined, and cast into the Fleet Prison.

commanding one of the three largest ships engaged with the Spanish Armada, and died from the effect of a wound received at the assault of Croyson during the war with Henry IV. of France. He was a most courageous man, and of great strength. On one of his voyages a Greenland Esquimaux, attracted to the side of the vessel, was lifted bodily on board by Frobisher "by maine force, boate and all."

The next voyage of note is that of Sir Humphrey Gilbert, in 1583, who was despatched to take possession of the northern parts of America and Newfoundland. The belief in rich mineral deposits still continued, and a refiner was taken on the expedition. One of the three vessels was wrecked, only twelve men out of one hundred being saved, and among those drowned was the aforesaid metallurgist, and Buda, a learned Hungarian, who was to have recorded all that was new and interesting. Sir Humphrey escaped in his little bark of ten tons, the *Squirrel*, accompanied by a larger vessel, the *Golden Hinde*. Having passed the Azores, the former vessel was observed to be nearly overwhelmed by a great sea; as she rose from the waves those on the *Hinde* saw Sir Gilbert sitting abaft, and heard him calling out loudly, "Courage, my lads! we are as near to heaven by sea as by land!" The same night his little bark was



SIR HUMPHREY GILBERT.

"Do not fear! Heaven is as near," he said, "by sea as by land."

Face page 26.

engulphed, and all on board perished. The brave words of this noble gentleman might well be remembered by all who voyage on the ocean, and they have undoubtedly again and again recurred to the minds of our Arctic heroes.

Two years later we find the merchants of London again subscribing for other trials at the north-west passage. In brief, Master John Davis made three different voyages with this object. The name of *Frizeland*, given by Frobisher to Greenland, was retained by him, and Davis has an enviable reputation in regard to the accuracy of his descriptions and geographical positions. The entrance to Baffin's Bay, now known universally by his name, was first explored and described by him. On his first voyage four musicians were taken, and their performances gave great delight to the natives. We find this navigator in 1595 publishing a memorial to the Lords of Her Majesty Queen Elizabeth's Privy Council, in favour of polar exploration and renewed efforts for attempting the north-west passage. It is a curious and rare pamphlet. Among the headings to the different paragraphs is one to the effect "That under the Pole is the greatest place of dignitie!"

CHAPTER IV.

Willem Barents—First Voyage—Antipathy of Bears to Dutchmen—Second Voyage—Third Voyage—Spitzbergen—Winter Quarters—Vessel Abandoned—Departure in the Boats—Death of Barents—Home again—Discovery of the Barents Relics by Carlsen.

PASSING over the pretended voyage of Maldonado, in which he claimed to have made the north-west passage, and the undoubtedly genuine one of Juan de Fuca, on the North Pacific, who, while searching for the imaginary "Straits of Anian," discovered the entrance and straits which now bear his name, we come to a series of north-eastern voyages instigated by the Dutch. "The True and perfect Description of three Voyages, so strange and wonderfull that the like hath neuer been heard of before," was first translated into English from the Dutch of Gerrit de Veer, by William Phillip, and published in 1609. In brief, in the year 1594, Amsterdam contributed one vessel, which was put under the command of Willem Barents, and Zeelandt and Enkhuysen, two, respectively in charge of Corneliszoon and Ysbrantz. After parting from the Texel the vessels separated,

Barents reaching and coasting Nova Zembla, and the islands adjacent. Near one of these a boatload of his men was nearly swamped by an enormous white bear, which they had wounded and lassoed with a rope. The infuriated animal seconded their efforts to get it on board, and a panic ensued; one of the sailors, however, succeeded in killing it with a pike. This work also contains some interesting notices of the walrus, or sea-horse. A female walrus almost sunk one of the boats, but the men making a great outcry, "shee was afraid, and swomme away againe, and tooke her yong ones againe in her armes." His men went ashore to try and kill some which were basking on the beach, and secure their fine ivory tusks; the sea-horses "brake all their hatchets, curtle axes, and pikes in pieces," and they could not kill any of them, but struck out some of their teeth. The front part of the head of a young walrus is not unlike a human face, and it is not improbable that this is the real foundation for the sailors' "yarns" concerning mermaids. Scoresby tells the story of a ship-surgeon running to him with the news that there was a man overboard, which proved to be simply the head of a walrus just above the water.

The crew refusing to proceed further, Barents turned his vessel homeward, rejoining the other ships at Dolgoi Ostrov. The commanders of the

two vessels asserted that they had been near the mouth of the Obi, "and that the land of Tartaria reacheth north-eastward again from thence, whereby they thought that they were not far from Cape Tabin" (now called Cape Taimur), which is "ye point of Tartaria that reacheth toward the kingdom of Chathaia, north-east and then southward." In other words, they imagined that they had settled the question of a north-east route which would lead them to China and India, and on their return a second voyage was speedily organised, which set sail the following spring, no less than seven vessels being employed. Six of these were laden with "diuers kindes of wares, merchandizes, and with money, and factors to sell the said wares." To make a long story short, this voyage was commenced late in the season and proved absolutely fruitless, and on the return of the fleet the General States of the United Provinces declined to send out any more expeditions.

The polar bear seemed to have a special antipathy to these good Dutchmen. On the voyage some of the crews had landed on an island to search for "diamonts" (*i.e.*, pieces of rock crystal). While two of the men were kneeling on the shore "a great leane white beare came sodainly stealing out, and caught one of them fast by the necke, who, not knowing what it was . . . cried out and said,

'Who is it that pulles me so by the necke?'" The other, seeing it was a "monsterous beare," ran away. "The beare at the first faling vpon the man, bit his head in sunder, and suckt out his blood;" whereupon about twenty of the ships' companies ran to kill it. The animal, nothing daunted, charged them, and killed a second of the men, "which she tare in pieces." Bruin took a great deal of killing, but after many musket shots, blows from cutlasses which were shivered to pieces on her hard head, and stabs from the knives of the sailors, she was eventually despatched.

The third and last voyage of the Hollanders was made in 1596, at the expense of the merchants of Amsterdam, Barents being chief pilot. Near Spitzbergen and Nova Zembla much ice was encountered, and the chronicler tells more "bear stories," among them, of one which swam away with an axe which had been driven far into its back. The ship was on one occasion made fast to an enormous piece of ice, on the top of which was a quantity of earth, where some forty sea-bird eggs were found. Later, the vessel was much strained and damaged, being forced up by the ice hummocks, and nearly capsized. On the evening of August 26th they arrived at Ice Haven, Nova Zembla, and it was a little later determined to winter there, and build a house. They were fortunate enough to find

"certain trees, roots and all, which had been driven upon the shoare from Tartaria, Muscouia, or elsewhere, for there was none growing upon that land." While the crew was at work on the house, a bear was shot dead while putting its head into a barrel which contained some salt beef. He was soon

BEAR SHOT DEAD WHILE LOOKING INTO A BEEF BARREL.

converted into beef himself. And very good meat it is, as the writer knows from a long personal experience in British Columbia and Alaska. By the end of October the whole crew was housed as comfortably as circumstances would allow, the larger part of the ship's stores having been taken ashore.

Warmth being so necessary, they caulked up the house, and when this was completed the smoke inside was almost intolerable, and they complained of "great swounding and dazeling" in their heads. The surgeon constructed a steam bath, from a wine-pipe stood on end, a hole being cut in the side both for air and as a means of ingress and egress. Twelfth night was celebrated, and the gunner made "King of Nova Zembla" with due ceremony, followed by hearty revels. When the worst of winter was over, and the daylight began to return, the bears came again about the house, and some were shot, their grease affording them the means of illumination: they also set springes and traps for the foxes, and had much difficulty in obtaining sufficient wood. Many of them were weakened by their enforced inaction, and the scurvy had made its appearance among some of the number. At the beginning of March they "saw much open water," and they looked hopefully forward to the day of their release. Early in April a bear tried hard to get at them, even attempting to enter the house by the chimney. At this time the ice hummocks on the coast were "risen and piled vp one vpon the other that it was wonderfull, in such manner as if there had bin whole townes made of ice, with towres and bulwarkes round about them." Their provisions, by the month of May, were getting very scarce, and

Barents shared the last meat—bacon—among them, two ounces daily to each man for three weeks. Next they began to repair the boat and yawl, which latter, says the narrator of this expedition, "when we had gotten it out of the snow, and thought to draw it to the house, we could not doe it, because we were too weake, wherewith we became wholly out of heart, doubting that we should not be able to goe forwarde with our labour; but the maister encouraging vs, bad vs striue to do more than we were able, saying that both our liues and our wellfare consisted therein, and that if we could not get the scute (yawl) from thence and make it ready, then he said we must dwell there as burgers of Noua Zembla, and make our graues in that place." Their work was much hindered by visits from their enemies the bears, and the liver of one which they killed, stewed, and ate made them "exceeding sicke," so much so that of three of the number it is stated that "all their skins came off from the foote to the head, but yet they recouered againe." Whereupon the captain took what was remaining and cast it out of the door, for, as the chronicler naïvely remarks, "we had had enough of that sauce." It was determined to abandon the ship, which was completely bilged, and hopelessly beset by the ice. On June 12th the men made a wide shoot, or way, to the water through the packed and hummocky ice, and the day after

launched their two boats, which had been strengthened, and the gunwales of which had been raised somewhat. Barents carefully deposited a letter recording their previous adventures in the house, and the boats set sail. There were fifteen men in all, and their provisions were reduced to a scanty supply of Dutch cheese, hard bread, *i.e.*, sea-biscuit, and wine, the latter probably a *vin* very *ordinaire*. They also took with them a portion of the finer goods which had been shipped by the merchants for trading purposes. Barentsz and a man named Adrianson had been long very sick, and had to be dragged on a sledge from the house to the water.

The narrative which follows records one of the most adventurous boat journeys ever made in the Arctic seas, by men weakened through semi-starvation, and badly provided in every sense. The larger of the boats was simply a fishing-yawl of small size, and the journey before them was 1,524 miles,* through an unknown sea choked with ice and very tempestuous. They left the western side of Nova Zembla on June 14th, 1597, at first making their course from headland to headland, and island to

* The distance was 381 Dutch miles, of which there are 15 to the degree. The edition published by the Hakluyt Society, under the careful supervision of Dr. Beke, settles this point conclusively, in contradistinction to the opinion of some that Flemish miles were meant.

island. At the most northern point, the boats being near each other, Barents, was asked how he did, to which he answered, "Quite well, mate; I still hope to be able to run before we get to Wardhuus;" then asking Gerrit (de Veer), "Are we about the Ice Point? If we be, then I pray you lift me vp, for I must view it once againe." These were nearly the last words of this brave man, who was evidently much beloved by his companions, and deserves to rank with the foremost of our heroes.

"The following day," says the narrator, "the ice came so frightfully upon vs, that it made our haires stare vpright vpon our heades, it was so fearefull to behold." Their nearly crushed boats had to be dragged on to the ice, De Veer being the first to creep from one to another piece of the broken, grinding mass, till he secured a rope to a large hummock. "And when we had gotten thither, in all haste, we took our sicke men out and layd them vpon the ice, laying clothes and other things vnder them." The boats were much damaged, and all the nails had to be driven fast again. While still encompassed in the drift "Adrianson began to be extreme sicke," and they saw that his hours were numbered; "whereupon William Barents spake and said, 'Methinks with me, too, it will not last long.'" Nevertheless the faithful pilot kept directing them, and examined De Veer's chart a few

minutes before he died. "At last he laid away the card (*i.e.*, map or chart), and spake vnto me, 'Gerrit, give me something to drinke,' and he had no sooner drunke" than the death-struggles came on him and he expired. Adrianson died soon afterwards. The little expedition was now left without any pilot in whom confidence could be reposed, and a few sad words of the narrative show how much the loss of Barents, in particular, was felt.

Day after day they struggled bravely on, often taking the boats and goods bodily over large extents of ice, and then re-launching them. Now they were nearly swamped by the waves; now the sides of their boats were crushed in by the grinding ice; now the ferocious polar bears attacked them, and we cannot wonder if, now and again, their hearts sank within them. They lost their goods and a part of their provisions; several of the number were nearly drowned, and that terrible scourge the scurvy was among them; but they persevered, and at last, on September 2nd, reached Cola, a small seaport of Russian Lapland, where their troubles ceased, and they met with old shipmates and friends, who had long given them up for lost. Eight weeks later they were by their own Dutch firesides, after having been entertained at the Hague by the Prince of Orange, to whom they narrated their adventures.

The present writer has dwelt more particularly on this, the third voyage of Barents, inasmuch as it has been often overlooked, or all but ignored; and a still further interest attaches to it from the recent discovery by Captain Carlsen, whilst circum-

BARENTS' HOUSE.

navigating Nova Zembla, of the very house built by this navigator, with many relics of the expedition. "No man had entered the lonely dwelling, where the famous discoverer of Spitzbergen had sojourned during the long winter of 1596, for nearly three centuries. There stood the cooking-pans over

the fireplace, the old clock against the wall, the arms, the tools, the drinking vessels, the instruments, and the books that had beguiled the weary hours of that long night, 278 years ago. . . . Perhaps the most touching is the pair of small shoes. There was a little cabin boy among the crew, who died, as Gerrit de Veer tells us, during the winter. This accounts for the shoes having been left behind. There is a flute, too, once played by that poor boy, which will still give out a few notes."* The relics are now preserved at the Hague, their fittest resting-place.

* "Discoveries East of Spitzbergen," &c. Paper read before the Royal Geographical Society, by C. R. Markham, Esq., C.B., F.R.S., Feb. 10th, 1873.

CHAPTER V.

Fresh North-West Passages—Weymouth—Hudson's Four Voyages—Left to Die—Retribution—Baffin—Icebergs—Bylot and Baffin's Voyage—Smith's Sound—The Fisheries—Sea-horse Hunting.

THE successful expeditions of Sir Francis Drake and others had proved to the nation the great value of Oriental commerce, and stimulated the merchants to renewed efforts for the discovery of a more direct route to the Orient. At this period we read less, however, of attempts at forming a legitimate commerce with the East than we do of obtaining wealth by the cheaper and more profitable way of plundering the Spanish and Portuguese. One Captain Lancaster, who started on a semi-piratical expedition in 1591, and who was wrecked, sent home some account of his voyages, to which he added, "The passage to the Indies is in the north-west of America"; and undaunted by previous failures, the Worshipful Merchants of the Muscovy and Turkey Companies conjointly fitted out an expedition to China, under Captain George Weymouth, which

was to proceed by that route. The two vessels became entangled in ice off Greenland, and even the thick fog is stated to have frozen as fast as it fell. They passed icebergs "of a huge bignesse," and so discouraged were the crews that the men conspired to turn the vessels' heads round for England, and keep the captain confined to his cabin; this, however, he discovered, and punished the ringleaders severely. The voyage was an utter failure, nor were those of Lindenau and Hall, fitted out about this time by the Danish Government to explore Greenland, of much more value.

And now came a period when the merchants of London seem to have temporarily given up both the north-west and north-east passages, and to have determined to see whether *a course holding towards the North Pole* would not accomplish the object of their hearts. For this expedition Henry Hudson was, in 1607, chosen commander, and he left in a bark of the smallest size with only ten men and a boy for crew. He returned safely, after proceeding a considerable distance, but reported that the ice to the north of Spitzbergen had baffled all his efforts. In his second voyage, in 1608, to the north-east, he landed on Nova Zembla, and finding, as he says, little hope of a passage between it and Spitzbergen, "my purpose was by the Waygats to passe by the mouth of the river Ob, and to double

that way the North Cape of Tartaria, or to give reasons wherefore it will not be." He finding quantities of morse, and hoping to defray the expenses of the voyage by obtaining quantities of their tusks, delayed somewhat; meantime one of his parties explored a river flowing from the north-east. He returned to England that autumn. His third voyage in 1609 was performed in the service of the Dutch, and his movements seem to have been somewhat erratic. He first doubled the North Cape as though intending to proceed in search of a north-east passage; next we find him turning to the coast of Newfoundland, thence proceeding as far southward as South Carolina; then northward back to Cape Cod, finally discovering the beautiful river at whose mouth New York is now situated, and where the Dutch soon made a settlement. On the second of his voyages two of his men asserted that they had seen a veritable mermaid.

Hudson was a skilful and enterprising navigator, and, further, was probably the first who made observations on the inclination or dip of the magnetic needle. His fourth and last voyage terminated in a cruel tragedy, by which England lost the services of one of the very bravest of her explorers. Sir John Wolstenholm, Sir Dudley Digges, and others, firmly persuaded that the north-west passage might yet be made, fitted a vessel at their own

expense, giving Hudson the command. The accounts of this voyage are meagre, but we know that he entered the great bay or sea which now bears his name, and explored some parts of the Labrador coast. The vessel becoming beset with ice, Hudson called his crew together, leaving with the sailors the choice of proceeding or returning. They differed, but "words which were remembered a great while after" were growlingly uttered. The spirit of mutiny was increased by some changes which Hudson made, in displacing the mate and boatswain. Nevertheless he determined on continuing his explorations, and sailed south, entering a bay on Michaelmas-day, to which he affixed that name. Here his determination to proceed on the voyage seems to have added fuel to the discontent of the crew. Having sailed three months longer they at length went into winter quarters in a suitable harbour, and on November 10th were frozen in.

We are dependent on one Abacuk Pricket, a sailor on board, for all information regarding the termination of this unfortunate voyage; and his account must be received with caution, inasmuch as his evident connection with the mutineers makes his veracity dubious. Henry Hudson had, it appears, taken into his house in London one Greene, a dissolute young man of respectable parentage, whom he carried to sea with the hopes of reforming

by removing him from temptation. This man, utterly forgetful of Hudson's kindness, became one of the leading mutineers. The ship's provisions were fast failing, but for the first three months large numbers of white partridges were killed. The geese, ducks, and swans which came in spring were procured with difficulty, and the chronicler tells us that they were reduced to eating moss and frogs. Later, a gleam of hope appeared when in one day seven men succeeded in catching five hundred fish as large as herrings ; but this supply also soon failed them, and Hudson determined to set sail, previous to which he divided the bread on board, about a fortnight's rations, and some small quantity of cheese. " He wept as he gave it unto them." They then stood to the northward and the vessel became entangled in the ice. On June 21st Wilson, the boatswain, and Greene came to Pricket, and told him that they and their comrades meant to turn out the master and the sick into the boat and leave them to shift for themselves, as there were not fourteen days' provisions on board. Pricket pretends that he tried to dissuade them from their diabolical scheme, and that he was threatened and an oath administered to him, by which he was forced to hold his peace. Hudson, as he came from his cabin, was forcibly seized, his arms tied behind him, and hustled into the boat, with his son

HUDSON ABANDONED.

Face page 45.

and seven "sicke and lame men." A fowling-piece, a few pikes, an iron pot, a little powder, shot, and meal were thrown into the boat, which was then cut adrift and left to the mercy of the ice and sea. Only one man of the whole crew, John King the carpenter, made any resistance to this act of barbarous cruelty. He was overpowered, and, determining not to leave his commander to perish alone, jumped into the boat. Nothing was ever learned of the fate of poor Hudson, one of the most intrepid and daring in the long list of England's brave seamen.

Retribution speedily followed. Pricket says that Greene came to him, immediately that the ill-fated boat was lost to view, and said that the crew had selected him for captain. Disputes arose as to which way they should steer, and they became completely surrounded and entangled in the ice. When at length they got clear the provisions were all consumed, and they had to subsist on cockle grass gathered on some rocky islands. They now began to fear that "England was no safe place for them," and Greene, who was evidently the bully of the crew, "swore the shippe should not come into any place, but keep the sea still, till he had the King's Majestie's hand and seale to shew for his safety." He shortly after displaced Pricket as captain. On reaching some island near Cape

Digges, a quarrel ensued with the natives and Greene was killed, three of the others dying of wounds received in the scuffle, "these four being the only lustie men in all the ship." Pricket was severely wounded. They contrived to secure about three hundred sea-fowl and stood to the westward, hoping to cross the Atlantic and reach the coast of Ireland. At length all their meat was gone, and they had to eat candles, and fry the skins and bones of the fowl in candle grease. One of the chief mutineers died from sheer starvation just before they reached the bay of Galloway. From several suspicious circumstances and inferences, among them the non-production of a large part of Hudson's journal, Pricket is believed to have been little better than the rest. A subsequent navigator, Luke Foxe, who quaintly termed himself the "North-West Foxe," says of him: "Well, Pricket, I am in great doubt of thy fidelity to Master Hudson." Nevertheless we hear of this same man and Bylot, another of the conspirators, as engaged in the very next expedition under Sir Thomas Button. No full account of this voyage was published, but it is conjectured that it was partly undertaken with the view of rescuing Hudson. Button, among other explorations and discoveries, was the first to enter Nelson River, at the mouth of which Fort York, one of the leading

settlements of the Hudson's Bay Company, is now situated.

James Hall left England in 1612 on a voyage of discovery, but was mortally wounded by the dart of an Esquimaux on the coast of Greenland. William Baffin, afterwards a celebrated Arctic explorer, accompanied him, and the expedition is principally remarkable for having been the first on record in which longitudes were taken by observation of the heavenly bodies. Baffin was the most scientific navigator of his day, and an admirable writer. In 1615 we find him again accompanying Bylot to the north-west. After sighting Greenland their vessel was much beset by ice, and some enormous icebergs are described by Baffin. He mentions one 240 feet high from the surface of the sea, and says: "If report of some men be true, which affirms that there is but one-seventh part of the ice above water, then the height of that piece of ice, which I observed, was . . . one thousand sixe hundred and eightie foote from the top to the bottome." In a learned dissertation on the specific gravity of ice, written some time afterwards, Foster makes the mass in question 8,400 feet from top to bottom. This is simply absurd: the depth of an iceberg under water depends on the *shape* of the mass. Baffin was in general terms about right as regards a cubical or rectangular mass, but

an iceberg of pyramidal form may have a great height above water, and with extensive base a comparatively small depth under it. A brother of the writer, who has twice visited Greenland, saw in the deep water off Jacobshavn icebergs 90 to 100 feet high *grounded* at a hundred fathoms (600 feet); in other words, the mass under was six or more times as high or deep as that above the surface.

Captain Gibbons, in the previous year, made a somewhat disastrous voyage. He encountered a large quantity of ice in Hudson's Straits, and was driven down the coast of Labrador, in a bay of which his vessel was frozen up for five months. The ship's company in derision named the spot "Gibbons, his hole." He at last escaped with considerable damage to the ship.

In 1616 Bylot and Baffin were again associated, and their little bark, the *Discovery*, made its fifth voyage to the Arctic. They reached the coast of Greenland, proceeding northward to Hope Sanderson, the extreme point reached by Davis, and met much ice. Still proceeding in a northerly direction they reached and named the various inlets and passages known as Wolstenholme, Whale, and Sir Thomas Smith's Sound, reaching as high as latitude 78°. On Midsummer-day Baffin records that it was so intensely cold that "our shrowds, roapes, and sailes were so frozen that we could scarce handle

them." They next stood to the south-westward, discovering Jones' and Lancaster Sound. The crew of seventeen persons was by this time much weakened by scurvy; one had died, three were confined to their hammocks, and all were more or less affected. On a small island in Cockin Sound they found scurvy grass and sorrel, of which they made salads, and obtained fresh fish from the natives. On August 30th they reached England. The records of this most important voyage are unaccountably meagre. Bylot and Baffin had reached Smith's Sound, the channel which is now regarded as the very portal of the unknown regions surrounding the North Pole, and in which our interest is centred at the present time (1875). The expedition which has just left our shores is under orders to proceed *viâ* that Sound, the southern entrance to which has been found by many vessels since 1852 free from ice during summer, and which has been penetrated for a considerable distance by American explorers, most notably by Hall, who reached and wintered beyond the 81st parallel of latitude. Of this more anon.

Many trading voyages were made at this period, the previous expeditions, which had failed in the real object of their search, having been nevertheless the means of opening up extensive commercial relations with Russia and of establishing the

fisheries of Newfoundland, Davis Straits, and Spitzbergen. Bennet made several voyages to the north-east, and Cherry Island was so named by him after his employer, the "worshipful merchant," although it had been discovered several years before by Barentsz. They found on the island great numbers of morse, or walrus, "lying like hogges upon heaps." They shot at them vainly, till their muskets were spoiled and their powder spent, when, says the narrator, "wee would blow their eyes out with a little pease shot and then come on the blind side of them, and with our carpenter's axe cleave their heads; but for all that wee could doe, of about a thousand wee killed but fifteene." Elsewhere they were more fortunate, and they collected a quantity of their ivory. More fortunate still were succeeding voyages; on one occasion they killed seven or eight hundred in six hours, and on another nearly a thousand in seven hours. Formal possession of Cherry Island was taken in 1609 by the Muscovy Company, and in the following year that association of merchants sent Jonas Poole, who had been on all the last-named voyages, in charge of the ship. He went as far as Spitzbergen, finding the weather mild and warm even in May. It was probably an exceptional case, but he argued from it "that a passage (to the Indies) may be as soon attayned this way, by the pole, as any unknowne

way whatsoever, by reason the sun doth give a great heat in this climate; and the ice that freezeth here is nothing so huge as I have seen in 73 degrees." His crew killed some deer, several bears, and a number of walruses. Speaking of the former he says: "If, then, having nothing but the rockes for a house, and the starry canopie for a covering doe (female deer) live here, why may not man which hath all the gifts of God bestowed upon him for his health and succor?"

The following year a larger vessel was despatched by the same company in charge of Stephen Bennett, "for the purpose of killing of the whale," and this is the first recorded English voyage undertaken expressly for this purpose. The vessel was lost in the ice off Spitzbergen. In 1612 the Muscovy Company despatched two vessels under Poole, who secured a number of whales, and in the following season no less than six ships and a pinnace, in one of which Baffin sailed. The whale fishery now became an established fact, for in addition to the above, eight Spanish, two Dutch, four French, and several Biscayan vessels engaged in the pursuit of the great marine mammal in the Sea of Spitzbergen. "The first" (*i.e.*, the Spaniards), says Baffin, "we expected would have fought with us, but they submitted themselves unto the generall." The Muscovy adventurers took possession of the whole

country in the name of his Majesty, warning all but a favoured few of the others from fishing in those waters, a tolerably high-handed proceeding! Our vessels were this season very successful; and in 1614 ten ships, two pinnaces, and a vessel under the command of Robert Fotherby, intended for purposes of discovery, were despatched to the same seas. The latter became entangled in the ice off Spitzbergen, and accomplished little.

CHAPTER VI.

Jens Munk—An Unlucky Voyage—Mortification and Death—The North-West Foxe—Origin of the Hudson's Bay Company—Unfortunate Voyages—Knight's Expedition—Starvation—The Two Survivors — Hopeless Abandonment — Dobbs and Middleton — £20,000 offered for the Discovery of a North-West Passage.

IN the year 1619 Christian IV. of Denmark fitted out two vessels for a voyage of northern discovery, the command of which was given to Jens Munk, an experienced navigator. The crews were mainly composed of English sailors, who had been on previous expeditions. Munk left Elsinore on May 18th, reaching the southern coast of Greenland a month afterwards, and endeavoured to stand up Davis' Strait, but, finding his vessel much hampered with ice, returned along the coast to the southern extremity, from whence he passed through Hudson's Strait, the name of which he re-christened after his royal master. The northern part of Hudson's Bay he also re-named *Mare Novum*, the New Sea, and in other instances seems to have ignored previous discoveries. The season advancing, he

was compelled to seek shelter in an inlet of the mainland, which he named Winter Harbour, and to the surrounding American territory he modestly applied the title of New Denmark. He here constructed huts, and his company, consisting in all of sixty-four souls, were successful in their hunting expeditions, obtaining bears, foxes, hares, and partridges. Mock suns were observed, and an eclipse of the moon occurred, during which that luminary was seen surrounded by a ring, within which was a cross quartering it. The phenomenon was strangely regarded as an omen of approaching ill-fortune. The cold was intense; their wine, brandy, and beer were frozen, and the casks burst; the scurvy ravaged their number, and by spring, their provisions failing, the men were so weakened that they were unable to obtain the ducks and geese which flocked around them. They were reduced to a deplorable condition, and one by one died off rapidly. Early in May all their stores were consumed, and Munk, who was prostrated with disease, found himself left with but two living survivors. These brave men, however, did not utterly give in: they encouraged each other to make one last effort for escape; collected herbs and plants which, in some degree, reduced the effects of the scurvy, and by degrees were able to fish and hunt for the wild animals which abounded in their neighbourhood.

They at length equipped the smaller vessel, re-fitting her from the stores of the larger one, and set sail.

The vessel, almost abandoned to itself, drifted across the tempestuous ocean with these three forlorn men straining every nerve to save their lives, each moment hope reviving in their breasts as they slowly sped on their eastward course. At length, on September 25th, 1620, they reached the coast of Norway in safety. Their subsequent arrival in Denmark was looked upon as a very resurrection from the dead; their friends had utterly given them up, and the recital of their sufferings created great sympathy. The interest awakened was such that Munk, in spite of the unfortunate termination of his last voyage, proposed a second for the purpose of north-western discovery; a subscription was made for that purpose, the expedition organised, and the vessels made ready. On taking leave of the court, the king admonished him to be more cautious in his proceedings, and seemed to blame Munk for the loss of his crews. This the intrepid navigator could not stand, and he answered the king in a somewhat uncourtly manner. That monarch so far forgot his dignity as to strike Munk with a cane, and the brave old sailor left the royal presence smarting under a sense of affront which he could not stifle. He took to his bed, and, it is said, died of a broken heart some days after.

In 1631 Captain Luke Foxe made a voyage to the north, in a government vessel put at his disposal by Charles I. Several merchant adventurers fitted and victualled the ship, which started under very favourable auspices. Foxe, however, accomplished little beyond naming a few headlands in and near Hudson's Strait and Bay. His work is one of the curiosities of literature, and is very quaintly written. He styles himself "The North-West Foxe," and his narrative commences with, "Gentle reader, expect not heare any florishing phrases or eloquent tearmes; for this child of mine, begot in the north-west cold clime (where they breed no schollers), is not able to digest the sweet milke of Rhetorick." Nevertheless it is full of superfine writing and exaggerated language. Off the coast of Greenland he observed a shoal of grampus following their leader, which gives him an opportunity for recalling William Browne's Pastorals, wherein he writes, "the Tritons wafted Thetis along the British shores." His haste to pass through Hudson's Straits induced one of his officers to ask him why he was in such a hurry? to which he replied, "that it fared with him as with the mackarell-men of London, who must hasten to market before the fish stinke." In Hudson's Bay he fell in with one Captain James, who had been sent out on a voyage of discovery by the British merchants. Foxe says of him, "I did not think

much for his keeping out his flagg; for my ambition was more ætherial, and my thoughts not so ayerie. . . . To this was replide, that hee was going to the Emperour of Japon (Japan) with letters from his Majestie . . . (Keep it up then, quoth I), but you are out of the way to Japon, for this is not it;" and other gossipy nonsense of the same kind. He irreverently speaks of the northern lights as "pettit dancers." His truest remark was made when he admitted that they had made but "a scurvie voyage of it." Foxe was an Arctic hero to no one but himself.

Frederick III. of Denmark sent out an expedition under Captain Danells, in 1652, to explore East Greenland. His observations in regard to the ice-bound nature of the East Greenland shores have been confirmed by subsequent writers. He could rarely approach them nearer than eighteen or twenty miles.

Soon after the French possessed themselves of Canada, one M. de Grosseliez made an expedition to Hudson's Bay, and later, proceeded to France, where he endeavoured unsuccessfully to induce the government to form settlements about that locality. The English Minister in Paris, hearing of his proposals, gave him a letter to Prince Rupert, and in London he met with a different reception. He was speedily sent out in one of his Majesty's ships, partly

with the object of making settlements, but also to once more attempt the north-west passage. One Captain Gillam was the commander of the vessel, and on arrival at a river emptying into Hudson's Bay, which was named after the Prince, a small stone fort was erected. Prince Rupert obtained a royal charter, dated in 1669, granting himself and associates all the lands and territories in Hudson's Bay, together with all the trade thereof in furs, minerals, and other commodities. This is the origin of the great company which so long held undisputed sway over northernmost America from the Atlantic almost to the Pacific, and which is still a flourishing incorporation.

The voyages of Captains Wood and Flawes close the long list of unfortunate north-western and north-eastern voyages made during the seventeenth century. One of the vessels was lost on some rocks off the coast of Nova Zembla, and the other accomplished absolutely nothing. Nor did, as we shall see, the following century open more happily.

James Knight, head man of the Hudson's Bay Company's factory or trading post on Nelson's River, had, in his intercourse with the Indians, learned of a rich deposit of native copper at some point near a navigable river north of their station. He came to England, and, after some trouble, in-

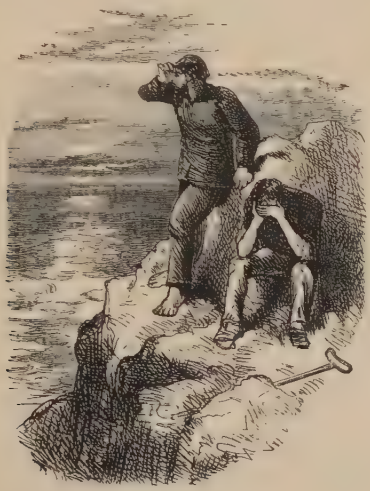
duced the company to fit out two vessels—the former a ship, of which the command was given to Captain George Barlow, and a sloop, which was entrusted to Captain David Vaughan, Knight himself having, however, sole charge of the expedition. He was, in addition to his search for minerals, to attempt a north-west voyage. The ships left Gravesend in the spring of 1719, and never returned, nor was the fate of the unfortunate passengers and crews discovered till some forty-seven years afterwards. In 1767 some of the company's employés whale-fishing near Marble Island, stood in close to the shore, where, in a harbour, they discovered the remains of a house, guns, anchors, a smith's anvil, and other weighty articles, while the hulls of the two ships were seen under water. The following extract from a work by Samuel Hearne describes graphically the misery to which these unfortunate men must have been reduced before mercifully released from this life. It was obtained from some aged Esquimaux by the assistance of a native interpreter who was in the service of the company :—

"When the vessels arrived at this place (Marble Island) it was very late in the fall, and, in getting them into the harbour, the largest received much damage; but, on being fairly in, the English began to build the house, their number at that time seeming to be about fifty. As soon as the ice permitted,

in the following summer, 1720, the Esquimaux paid them another visit, by which time the number of the English was very greatly reduced, and those that were living seemed very unhealthy. According to the account given by the Esquimaux, they were then very busily employed, but about what they could not easily describe—probably in lengthening the long-boat, for, at a little distance from the house, there was now lying a great quantity of oak chips, which had been made most assuredly by carpenters.

"A sickness and famine occasioned such havock among the English that, by the setting in of the second winter, their number was reduced to twenty. That winter, 1720, some of the Esquimaux took up their abode on the opposite side of the harbour to that on which the English had built their houses, and frequently supplied them with such provisions as they had, which chiefly consisted of whale's blubber, and seal's flesh, and train oil. When the spring advanced, the Esquimaux went to the continent, and on their visiting Marble Island again, in the summer of 1721, they only found five of the English alive; and those were in such distress for provisions, that they eagerly eat the seal's flesh and whale's blubber quite raw as they purchased it from the natives. This disordered them so much that three of them died in a few days, and the other two, though very weak, made a shift to bury them.

These two survived many days after the rest, and frequently went to the top of an adjacent rock and earnestly looked to the south and east, as if in expectation of some vessels coming to their relief. After continuing there a considerable time together,



NO HOPE!

and nothing appearing in sight, they sat down close together and wept bitterly. At length one of the two died, and the other's strength was so far exhausted, that he fell down and died also in attempting to dig a grave for his companion. The skulls and other large bones of those two men are now

lying above ground close to the house. The longest liver was, according to the Esquimaux account, always employed in working iron into implements for them; probably he was the armourer or smith."

The Hudson's Bay Company sent out a vessel in charge of one John Scroggs to search for these unfortunates. That captain appears to have spent his time in objects entirely foreign to his mission, and deserves no place among our heroes.

A somewhat persistent, if not cantankerous, gentleman, named Arthur Dobbs, about this period worried the Hudson's Bay Company into organising certain northern expeditions. The company was for a long time exceedingly reserved in regard to the discoveries made by its servants, and further jealous of its profitable monopoly, fearing that interlopers might interfere with its commerce. Mr. Dobbs was, by dint of constant importunity and solicitation, the cause of more than one expedition being sent out. Captain Middleton was despatched in command of a navy vessel in 1741, and passed the winter in Churchill River, proceeding some distance northward, making apparently careful surveys, but no discovery of importance. Dobbs, on his return, publicly accused Middleton of acting treacherously toward the government, and of having taken a bribe of £5,000 from his old employers (the Hudson's Bay Company) not to make discoveries.

The captain denied the bribe, but almost admitted having said that no one should be the wiser if he did make the north-west passage. The Lords of the Admiralty, after a detailed examination, were evidently not thoroughly convinced of Middleton's honesty of purpose, and the agitation made by Dobbs led to the passage of an Act of Parliament offering £20,000 for the discovery of a north-west route to the Pacific.

A public subscription was immediately set on foot, and an expedition organised. £10,000 was soon raised, a committee appointed, and two vessels, the *Dobbs Galley* and the *California*, were purchased. The command of the former devolved on Captain William Moor; that of the *California* on Captain Francis Smith. They left in the spring of 1746, and were absent one year and nearly five months, wintering near Fort York. In effect they accomplished nothing, although the narrative by Henry Ellis gives a very interesting account of life in the northern regions. The result was, however, to throw a damper on the ardour of the public, and for nearly thirty years we hear of no further English enterprise in this direction.

In 1769, Samuel Hearne, in the interests of the Hudson's Bay Company, attempted an exploration of the Coppermine River, named by the Indians *Neetha-sansan-tessy* (the distant metal river). The

Indians purposely delayed him in various ways, and he had to return. A second attempt was hardly more successful, although he was absent nine months from Fort Churchill. He persevered, and on his third journey, in 1770—1, reached the mouth of the river, although we hear nought of any discovery of minerals, which was the object of his mission.

Captain Cook's name lives, and will live, in connection with the geography of the whole world. Nevertheless we must, for the completeness of our narrative, mention his careful exploration of the American coast northward from Mount St. Elias, through Bering's Straits to Icy Cape, soon after which he lost his life at the hands of the then uncivilised people of the Sandwich (Hawaiian) Islands. Nor must we forget the travels of the brave and modest Mackenzie, who, in 1789, descended to the Arctic the great river which now bears his name.

CHAPTER VII.

The Polar Ocean—Russian Discoveries—The Two Unconquerable Capes—Siberian Coasts—Peter the Great—Vitus Bering's Voyages—Discovery of the Straits—Of the Aleutian Isles—Shipwreck and Scurvy—Death of Bering—The Ivory Islands—New Siberia—Wrangell's Ice Journeys—Wrangell's Land.

THE exploration of the coast of the Polar Ocean from Bering's Straits to Nova Zembla is due to the Russians, whose vast domain extends far within the regions of the ice-king. "Those shores," says Mr. Markham, "are, perhaps, the most desolate on the whole circle of the threshold to the unknown region. The Siberian rivers, the Obi, the Yenisei, the Lena, the Indigirka and Kolyma,—rise in the Altai mountains, and flow, in their upper courses, through forests of tall trees. But, before they reach the Polar Ocean, they traverse a dreary region of frozen swamp, which is barely habitable, called the *tundra*. Here the land is frozen for many feet below the surface. The rivers, during times of flood, bring down vast quantities of uprooted trees, which line their banks in immense masses, and are eventually

carried into the Polar Sea, to be drifted away with the current which flows from east to west along the Siberian coast.

"The efforts of the Russians to double the extreme northern points of Siberia—Capes Taimyr and Chelyuskin, the latter in 77° 30′ N., have hitherto been unsuccessful. . . . The Russians, in very early times, constantly went from Archangel to the mouth of the Obi, creeping along between the land and ice in the Sea of Kara, and usually hauling their boats, or lodias, across the isthmus between Kara Bay and the Gulf of the Obi." Several explorers, Lieutenants Muravief, Malgyn, and Shurakoff, between 1734 and 1738, sailed from Archangel to the Obi, doubling the promontory. Lieutenant Koskelof sailed successfully from the Obi to the Yenisei in 1738. In 1735 Lieutenant Pronchishchef, accompanied by his wife, got near Cape Chelyuskin, his vessel being frozen in there. He and his wife both died that winter. In 1742 Lieutenant Chelyuskin reached the northernmost point of the continent in latitude 77° 34′ N., by sledges.

In the summer of 1843 Middendorf explored the region which terminates in Cape Taimyr, by land. "In August he arrived at the shores of the Polar Sea, and sighted Cape Taimyr," *whence he saw open water.*

From the Lena eastward, vessels have frequently

reached the Kolyma River. Nijni Kolymsk, near the mouth of that river, was founded as early as 1644. A few years later Deshnef sailed thence with three very small vessels, doubled Cape Chelagskoi, and reached the Gulf of Anadyr *viâ* Bering's Straits. Most of his men perished from starvation, but he succeeded in establishing a walrus fishery at the Anadyr.

That sagacious monarch, Peter the Great, desired that the whole northern coast of Siberia should be explored. Bering, who deserves to rank among the leading voyagers of the last century, received his instructions a few days before the Czar's death. Bering was a Dane in the Russian service, and was an active, energetic man. The principal object of his mission was to discover whether Asia and America were one, or how closely their coasts approached. Müller, the historian of Bering's life, says: "The Empress Catherine, as she endeavoured in all points to execute most precisely the plans of her deceased husband, in a manner, began her reign with an order for the expedition to Kamtschatka." Vitus Bering was to be commander, and to be assisted by two lieutenants, Martin Spanberg, and Alexei Tschirikoff. They left St. Petersburg on the 5th of February, 1725, and proceeded to the Ochotsk Sea, *viâ* Siberia. It gives some idea of the difficult nature of the

Russian overland route in those days, to find that it occupied them over two years in transporting their outfit to Ochotsk. From thence, after a vessel had been specially built for them, they crossed to Bolcheretsk in Kamchatka,* and the following year transported their provisions and naval stores to the town of Nijni. "On the 4th of April, 1728," says Müller, "a boat was put upon the stocks like the packet boats used in the Baltic, and on the 10th of July was launched and named the *Gabriel.*" On the 20th of the same month they went to sea. Bering followed the coast and discovered the Island of St. Lawrence. He reached as far north as lat. 67^{0} 18′, discovering the straits which now bear his name, and then returned to the Kamchatka River. A second voyage was unsuccessful. Contrary winds baffled his efforts at exploring the north-western coasts of America. He returned shortly after to St. Petersburg.

On July 4th, 1741, Bering again sailed, this time from Petropaulovski, Tschirikoff having charge of a second vessel. They became separated in a storm. They discovered many of the Aleutian and other islands, the mainland near Mount St. Elias, Alaska, and had many adventures with the

* The above is the correct, or at all events the nearest approach to the name as pronounced. The writer paid two visits to that country in 1865 and 1866.

natives. At length the scurvy made its appearance among them, and Bering turned back to try and make the coast of Kamchatka. The sickness increased, and so weakened the crew that "two sailors who used to be at the rudder were obliged to be led in by two others, who could hardly walk. And when one could sit and steer no longer, another in little better condition supplied his place. Many sails they durst not hoist, because there was nobody to lower them in case of need." At last land appeared, and a council was held : they determined to sail towards it, and getting near it they dropped anchor. A violent storm arose, and the ship was driven on the rocks, which she touched : they cast their second anchor ; its cable was torn in pieces before the anchor took ground. A great sea pitched them clean over the rocks, behind which, however, they found quieter water, and the crew having rested, at last put their boat overboard, and some of them went ashore. There was no timber on the island, hence, instead of building a house, they determined to roof in some neighbouring ravines. "On the 8th of November a beginning was made to land the sick, but some died as soon as they were brought from between decks in the open air, others during the time they were on the deck, some in the boat, and many more as soon as they were brought on shore." On

November 9th, the Commander Bering, himself utterly prostrated with scurvy, was brought ashore on a hand-barrow, and a month later died on this island, which now bears his name. "He might be said to have been buried half alive, for the sand rolling down continually from the side of the ditch in which he lay, and covering his feet, he at last would not suffer it to be removed, and said that he felt some warmth from it, which otherwise he should want in the remaining parts of his body. And thus the sand increased to his belly, so that after his decease they were obliged to scrape him out of the ground in order to inter him in a proper manner."

Their vessel became an utter wreck, and they lost nearly all their provisions. They had to subsist on dead whales which had been driven ashore. In the spring they managed to construct a small vessel from the wreck of the old one, and sailing, at length reached the coast of Kamchatka. Tschirikoff had reached Petropaulovski the previous autumn, but with the loss of twenty-one men by scurvy.

Next in importance to the discovery of Bering's Straits, was that of the islands of Liakhof, or New Siberia, in the Polar Ocean, which was made in 1770 by a merchant of that name, who crossed on the ice from the mainland. He obtained the ex-

clusive right from the Empress Catherine of digging up mammoth bones on the islands. As late as 1821 as much as 20,000 pounds of fossil ivory have been obtained in one year from this source. Hedenström in 1809, and Anjou in 1821, explored these islands thoroughly. The latter travelled a considerable distance on the ice northward, and reported *open water.*

Wrangell among all Russian explorers ranks the highest. He made in 1820—23 four polar journeys, starting from Nijni Kolymsk on the Kolyma River. These journeys were performed with dog sledges. The provisions taken were rye biscuit, meat, portable soup, tea, smoked fish, spirits, and tobacco. A conical tent of reindeer skin, *inside* of which a fire was lighted, with bearskins and reindeer coverlets, completed the outfit. In his first journey he explored the coast from the mouth of the Kolyma to Cape Chelagskoi. His second journey was designed to find out how far he could go on the ice northward from the Siberian coast. He was absent 36 days, and proceeded 140 miles, having on occasions to cross ridges of broken and rugged ice, when he found, near the open sea, the ice scarcely a foot thick, and very rotten. On the return, when near the coast, he had to cross ranges of hummocks, often eighty and ninety feet in height, denoting great pressure and upheaval in the ice

fields during the winter. On his third journey, in 1822, he started again northward on the ice, in order to discover the truth or falsity of a native statement that there was high land in that vicinity. After proceeding 170 miles from the land the ice again became rotten and unsafe. Wrangell on this occasion was absent 55 days, and travelled, in all, 900 miles. The fourth and last journey was commenced March 14th, 1823, and Cape Chelagskoi was reached on April 8th. A Tchukchi chief informed him that from the Cape a range of snow-covered mountains might be descried at a considerable distance to the north, and that reindeer sometimes crossed on the ice from thence. The party started on the ice once more, but on this occasion encountered a severe gale. The ice was much broken up, and but for the swiftness of their dogs, they would have perished. Wrangell was obliged to turn back after having proceeded seventy miles on the ice, and before he reached the land had many narrow escapes from the opening cracks. He afterwards explored the coast for a considerable distance, and travelled 1,530 miles on this trip. Although doubts have been freely expressed as to the existence of Wrangell Land, it was undoubtedly sighted by Captain Kellett, and in 1867 by Captain Long, an American whaler, who approached it from Bering's Straits.

CHAPTER VIII.

Remarkable Break-up of Ice—The North-West Problem again—John Ross—The Croker Mountains sailed over—Avalanches of Ice—Icebergs—Parry's First Command—Winter at Home in the Arctic—Sabine's Experiments.

THE renewal, in 1818, after a considerable lapse of time, of the efforts for northern discovery was not caused by caprice, but was brought about by an extraordinary change remarked by many navigators. Sir John Barrow, in a few well-chosen remarks, put the whole matter in a nutshell, and the writer therefore quotes freely from his second work. That indefatigable advocate for northern exploration, himself an Arctic traveller, says :—

"The event alluded to was the disappearance of the whole, or greater part, of the vast barrier of ice, which for a long period of time, perhaps for centuries, was supposed to have maintained its firm-rooted position on the eastern coast of Old Greenland; and its reappearance in a more southerly latitude, where it was met with, as was attested by various persons worthy of credit, in the years

1815, 1816 and 1817; by ships coming from the East Indies and America; by others going to Halifax and Newfoundland; and in different parts of the Atlantic, as far down as the 40th parallel of latitude. Some of these detached masses were of an unusual magnitude and extent, amounting in some instances to whole islands of ice, of such vast dimensions that ships were impeded by them for many days in their voyages; others were detached icebergs, from a hundred to a hundred and thirty feet above the surface of the water, and several miles in circumference. The Halifax packet reported that she had passed a mountain of ice, nearly two hundred feet high, and at least two miles in circumference. A ship, belonging to the Old Greenland Missions, was eleven days beset on the coast of Labrador in floes of ice mixed with icebergs, many of which had huge rocks upon them, gravel, soil, and pieces of wood; in short, every account from various parts of North America agreed in stating that larger and more numerous fields and bergs of ice had been seen, at greater distances from their usual places, in the years above mentioned, than had at any time before been witnessed by the oldest navigators. The fact, therefore, might be considered as too well authenticated to admit of a doubt."

It was at once concluded from whence the

greater part of these immense quantities of ice was derived. In a letter from Mr. Scoresby the younger, an intelligent navigator of the Greenland seas, to Sir Joseph Banks, he says: "I observed on my last voyage (1817) about two thousand square leagues (eighteen thousand square miles) of the surface of the Greenland seas, included between the parallels 74° and 80°, perfectly void of ice, all of which had disappeared within the last two years." Many other navigators confirmed these facts, and by the zealous advocacy of many writers and scientific persons—most notably Barrow himself and Sir Joseph Banks—the then Prince Regent, afterwards King George IV., was pleased to command that two attempts should be made to reach the Pacific by different routes. First we must record that of Commander John Ross, who was once more to try and solve the north-west problem.

The expedition was remarkable for the number of able officers and scientific persons who accompanied it, and for the small results attained. Among those on this voyage were Parry, afterwards a most zealous Arctic explorer; James Clarke Ross, a nephew of the commander, who afterwards greatly distinguished himself; and Sabine, then a captain in the Royal Artillery, now known as one of our foremost scientific authorities. Commander Ross,

albeit a brave seaman, disappointed public expectation. The voyage was to be prosecuted through Davis' Straits. The accuracy of Baffin's surveys of the bay which bears his name was established by Ross; but while navigating the entrance of Lancaster Sound he was arrested "by a vision of a range of mountains closing the bottom of the sound, seen by few or none in the ship except himself." The *Croker Mountains* have often been laughed at since, partly from the name so unfortunately given to them by Ross, and also from the fact that their supposed site was triumphantly sailed over the following year by Parry and Liddon. Ross, however, did not even attempt to ascertain the accuracy of his observation, and it is most probable that it simply originated in one of those atmospheric deceptions so common in the Arctic regions.

The second expedition, which started about the same time, is specially worthy of mention, inasmuch as the officers were men who in various ways have since made their mark in connection with arduous undertakings in the cause of science. Captain David Buchan had the chief command—a brave and enterprising man, who had previously established an honourable record. He had just before made a land journey across Newfoundland, over ice and snow, in order to procure an interview with the

natives. He was the first European who had ventured among them. He was afterwards lost, while on the voyage from India, on the *Upton Castle*, a ship the fate of which was never known. Franklin —that great and glorious name, which will be remembered when much more distinguished ones, as the world goes, are utterly forgotten—had an associate command. Beechey, Back, and several others since distinguished, were on this expedition. Buchan's instructions were to proceed to the Spitzbergen seas, whence they were to attempt the passage to the North Pole. After many fruitless efforts they were compelled, the vessels having been considerably damaged in the ice, to return home without having accomplished the object of the voyage. Beechey, however, gave to the world a very graphic account of the dangers encountered. An avalanche from the end of a glacier witnessed by them is thus described :—

" It was occasioned by the discharge of a musket at about half-a-mile distance from the glacier. Immediately after the report of the gun, a noise resembling thunder was heard in the direction of the iceberg (glacier), and in a few seconds more an immense piece broke away and fell headlong into the sea. The crew of the launch, supposing themselves beyond the reach of its influence, quietly looked upon the scene, when presently a sea arose

and rolled towards the shore with such rapidity that the crew had not time to take any precautions, and the boat was in consequence washed upon the beach, and completely filled by the succeeding wave. As soon as their astonishment had subsided they examined the boat, and found her so badly stove that it became necessary to repair her in order to return to the ship. They had also the curiosity to measure the distance the boat had been carried by the wave, and found it to be ninety-six feet.

"A second discharge occurred on a remarkably fine day, when the quietness of the bay was first interrupted by the noise of the falling body. Lieutenant Franklin and myself had approached one of these stupendous walls of ice, and were endeavouring to search into the innermost recess of a deep cavern that was near the foot of the glacier, when we heard a report, as if of a cannon, and turning to the quarter whence it proceeded, we perceived an immense piece of the front of the berg sliding down from the height of two hundred feet at least into the sea, and dispersing the water in every direction, accompanied by a loud grinding noise, and followed by a quantity of water, which, being previously lodged in the fissures, now made its escape in numberless small cascades over the front of the glacier.

"The piece that had been disengaged at first wholly disappeared under water, and nothing was seen but a violent boiling of the sea and a shooting up of clouds of spray, like that which occurs at the foot of a great cataract. After a short time it reappeared, raising its head full a hundred feet above the surface, with water pouring down from all parts of it; and then, labouring, as if doubtful which way it should fall, it rolled over, and, after rocking about for some minutes, at length became settled.

"We now approached it, and found it nearly a quarter of a mile in circumference, and sixty feet out of the water. Knowing its specific gravity, and making a fair allowance for its inequalities, we computed its weight at 421,660 tons. A stream of salt water was still pouring down its sides, and there was a continual cracking noise, as loud as that of a cart-whip, occasioned, I suppose, by the escape of fixed (confined) air."

In 1819 Parry, who had already won honourable distinction, was appointed to the command of a new expedition, the first of a series later made by him, and the object of which was to attempt that which Ross had failed to accomplish. The *Hecla* and *Griper* were the vessels employed, the second being commanded by Lieutenant Liddon. They sailed *over* the Croker Mountains (!), as previously

recorded, and at length reached the south side of Melville Island, where, in a haven which was named Winter Harbour, the ships remained ice-locked for ten months. They had previously encountered much danger, and a large ice-floe had forced the *Griper* on shore, from which perilous position she was at length rescued. Before the two vessels could be secured in a safe place, a canal nearly *two and one-third* miles long had to be cut through the ice, a labour which was accomplished, by all hands bearing a part, in three days' time. Then the ships had to be housed and repaired, warming apparatus contrived, and stores arranged. Next we find this most humane and kind-hearted of our naval heroes contriving amusements for his men.

"Under circumstances of leisure and inactivity such as we were now placed in, and with every prospect of its continuance for a very large portion of the year, I was desirous of finding some amusement for the men during this long and tedious interval. I proposed, therefore, to the officers to get up a play occasionally on board the *Hecla*, as the readiest means of preserving among our crew that cheerfulness and good-humour which had hitherto subsisted. In this proposal I was readily seconded by the officers of both ships; and Lieutenant Beechey having been duly elected as stage-manager, our first performance was fixed for the

5th of November, to the great delight of the ships' companies. In these amusements I gladly took a part myself, considering that an example of cheerfulness, by giving a direct countenance to everything that could contribute to it, was not the least essential part of my duty, under the peculiar circumstances in which we were placed.

"In order still further to promote good humour among ourselves, as well as to furnish amusing occupation during the hours of constant darkness, we set on foot a weekly newspaper, which was to be called the *North Georgia Gazette and Winter Chronicle*, and of which Captain Sabine undertook to be the editor, under the promise that it was to be supported by original contributions from the officers of the two ships."

The effect of Parry's good sense in such matters was that his crew was kept in capital health and spirits, and that every man, except one who died from an incurable disease, returned safely to England. Hunting parties were organised whenever occasion permitted, and during the long winter on the island the game "bag" was far from bad. Three musk-oxen, twenty-four deer, sixty-eight hares, fifty-three geese, fifty-nine ducks, and one hundred and forty-four ptarmigan, were either shot or snared.

Of course life, under even such favourable circumstances, in the Arctic regions must be attended

with some casualties. Several cases of scurvy were cured by the free use of preserved fruit and vegetables, lemon-juice, pickles, and spruce-beer. King Frost punished some of the men more severely for wandering or attempting too much in his domains. One John Pearson was rescued from a snow bank into which he had fallen, drowsy and stupified with the intense cold, and his hand had afterwards to be amputated. The effect which severe frost has in benumbing the mental faculties was seen in the case of others who had been exposed too long. When brought into Parry's cabin "they looked wild, spoke thick and indistinctly. . . . . After being on board for a short time the mental faculties appeared gradually to return with the returning circulation."

Nor were the duties of religion forgotten. On Sunday Divine service was held, with a sermon following, on both vessels. The same attention to the observances of the Sabbath has marked most of the numerous Arctic expeditions of the present century; and we can hardly wonder that, amid so many dangers, all on board should feel as seriously inclined as they seem to have done.

On February 24th a fire broke out in the shore-house, and, in the exertions to save the valuable instruments, sixteen men were frost-bitten, the thermometer ranging as low as —44° (*i.e.*, 76° below

freezing point). Several of the cases were serious. One of the men, "Smith, not having time to put on his gloves, had his fingers in half-an-hour so benumbed, and the animation so completely suspended, that, on his being taken on board by Mr. Edwards, and having his hands plunged into a basin of cold water, the surface of the water was immediately frozen by the intense cold thus suddenly communicated to it; and, notwithstanding the most humane and unremitting attention paid to him by the medical gentlemen, it was found necessary, some time after, to resort to the amputation of a part of four fingers on one hand and three on the other."

The lowest temperature experienced by Parry was —55° (*i.e.*, 87° below the freezing point of water, and 15° below that of mercury). The writer has experienced a lower degree of cold on the Yukon River in Alaska at a latitude many degrees below that of Winter Harbour, which was determined to be 74° 47′ 19″. In the winter of 1866—7 he found a reliable spirit thermometer registered —58° at Nulato, which is about lat. 64° 42′ 11″. The fact is mentioned in confirmation of the belief of many, that beyond a certain point toward the North Pole the temperatures do not increase in severity, but rather the reverse.

At length the day of release came, after many

an anxious foreboding. It was not till August 4th, 1820, that the two ships stood out of Winter Harbour, and even then it was only by a miracle that they escaped the ice nipping, grinding, and surging around them. A consultation was held, and it was resolved to turn eastward. After some examination of the coasts the vessels returned safely to England. It was on this voyage that Sabine made many of those important magnetic and pendulum experiments with which his name must ever be associated. In the year 1823 he proceeded with Commander Clavering to Spitzbergen and Greenland, and completed those philosophical experiments made in all parts of the world, which entitle him to a place among the very greatest discoverers.

CHAPTER IX.

Parry's Second Voyage—Disastrous Voyage of the *Griper*—A Noble Crew—Advantages of Discipline—Parry's Fourth Winter in the Arctic—His Polar Boat Voyage—Broken Ice—Labours of Sisyphus—Return to England.

PARRY was one of those who never let the discouraging past darken the hopeful future. In 1821 we again find him in command of an expedition, having with him as associate Commander, George Francis Lyon. He made several geographical discoveries of importance, and passed *two* winters in the Arctic regions. He returned to England, as before, with his crews in good health, the result of his thoughtful care and his habitual self-denial. He was ambitious always, but never allowed his ambition to override either his judgment or his principles. In the long list of Arctic heroes, who more truly heroic?

We shall find Parry again up and doing; but in chronological order, the voyage of Captain Lyon —his subordinate commander on the previous

expedition—comes next. This voyage was undertaken more for the completion of the surveys on the northernmost coasts of America than for direct discovery. It furnishes a striking example of the value of discipline on board ship, as well as of great bravery and uncomplaining submission to the Divine will in the hours of extremest danger, on the part of some forty men.

The *Griper*, a brig of 180 tons, was selected for this service, and a surveying vessel, the *Snap*, ordered to accompany her for part of the northward voyage. The first-named vessel proved a bad sailer, and had constantly to be towed by the latter. At length the two reached the ice, where, according to the instructions, the *Snap* parted company. The sluggish *Griper*, a vessel utterly unfitted for almost any service, was in constant danger, and at one time ran on a rock, which nearly heeled her over. She constantly shipped seas, which threatened to sweep everything from the decks. Her compasses proved nearly useless, and Lyon was obliged to seek the shelter of the land. He says: "I most reluctantly brought her up with three bowers and a stream anchor in succession; but not before we had shoaled to five and a-half fathoms, the ship pitching bows under and a tremendous sea running." Ignorant of the position of the land, and dreading that the falling tide would most likely

leave them wrecked, he got ready all his boats, the officers and men drawing lots for their respective chances of being swamped and drowned. The weather cleared a little, and they discovered a low beach, astern of the ship, on which a terrific surf was breaking. The ship, lifted by a tremendous sea and dashed back again, struck the bottom with the whole length of her keel, and utter destruction seemed imminent. No one expected to survive the gale, but an order was promulgated that the men should put on their best and warmest clothing in order that they might support life as long as possible. "Every man, therefore," says Lyon, "brought his bag on deck and dressed himself; and in the fine athletic forms which stood exposed before me I did not see one muscle quiver, nor the slightest sign of alarm. . . . And now that everything in our power had been done, I called all hands aft, and to a merciful God offered prayers for our preservation. I thanked every one for their excellent conduct, and cautioned them, as we should, in all probability, soon appear before our Maker, to enter His presence as men resigned to their fate. . . . Noble as the character of the British sailor is always allowed to be in cases of danger, yet I did not believe it to be possible that among forty-one persons no one repining word should have been uttered. The officers sat about

wherever they could find shelter from the sea, and the men lay down conversing with each other with the most perfect calmness. Each was at peace with his neighbour and all the world; and I am firmly persuaded that the resignation which was then shown to the will of the Almighty was the means of obtaining His mercy. God *was* merciful to us; and the tide almost miraculously fell no lower." They were saved, and, after encountering many storms and disasters, reached England.

Parry passed, in 1824—5, a *fourth* winter in the Arctic, having with him Commander Hoppner, Lieuts. Austin, Ross (James Clark), Sherer, and Foster (afterwards drowned in the Chagres River, on the Isthmus of Panama, whilst on a surveying party), Dr. Samuel Neill, and last, but not least, F. R. M. Crozier, then a midshipman. Poor Crozier's subsequent fate will be detailed further on. All of the above have in various ways distinguished themselves greatly in Arctic and other services. An attempt was made by Parry to find a passage through Regent's Inlet. It terminated in the loss of the *Fury*, one of the vessels employed. The stores were saved—another proof of Parry's coolness, thoughtfulness, and attention to details even in the midst of severe peril.

The fourth and last of Parry's voyages would have earned him a foremost place among our

heroes, had he not won it over and over again before. Barrow says truly : "The enterprise about to be described had plenty of novelty, difficulty, and danger to recommend it ; but Parry was not a man to rush headlong into a novel and perilous scheme without making inquiry into its nature. On consulting Phipps' voyage of 1773, he finds Captain Lutwidge describing the ice (north of Spitzbergen) for ten or twelve leagues as 'one continued plain of smooth unbroken ice, bounded only by the horizon.'" Mr. Scoresby's account was stronger still. "I once saw," he says, "a field that was so free from either fissure or hummock, that I imagine, had it been free from snow, a coach might have been driven many leagues over it in a direct line without obstruction or danger." Great encouragement these reports certainly afforded for the progress of a sledge-borne boat. Captain Parry, however, adds a further stimulus—that his hopes of success were principally founded on the proposition that had been made by his friend and brother officer, Captain Franklin, who had himself volunteered to conduct it.

Two boats were specially constructed for this purpose, twenty feet long and seven feet broad, flat-floored, and built as stout as wood and iron could make them, and so fitted as to contain nautical and other instruments, bags of biscuit,

pemmican, spare clothing, and a variety of smaller stores, chiefly provisions. "A bamboo mast nineteen feet long, a tarred duck sail, answering also the purpose of an awning, a spreat, one boat-hook, fourteen paddles, and a steer oar, completed each boat's complement." Two officers and twelve men (ten of them seamen and two marines) were selected for each boat's crew. Each boat, with all her furniture, tools, instruments, clothing, and provisions of every kind, weighed 3,753 pounds, being 268 pounds in weight for each man, exclusive of four sledges, weighing 26 pounds each.

"My own impartial conviction," says Parry, "at the time of setting out on this enterprise, coincided (with a single exception) with the opinion expressed by the Commissioners of Longitude, in their memorial to the King, that 'the progress of discovery had not arrived northwards, according to any well-authenticated accounts, so far as 81° of north latitude.'" The exception he alludes to is in favour of Mr. Scoresby, who states his having, in the year 1806, reached the latitude of 81° 12′ 42″ by actual observation, and 81° 30′ by dead reckoning.

Parry was appointed to the command of H.M. sloop *Hecla*, with instructions to proceed to Spitzbergen; thence he was in well-equipped boats to use his best endeavours to reach the North Pole.

Lieut. Foster, who was to command the vessel in his absence, was to survey the northern and eastern coasts of that island. Crozier and Ross (the younger) were on this expedition. The *Hecla* weighed anchor from the Nore, April 4th, 1827, and passing over a visit to Hammerfest, Norway, reached Spitzbergen May 14th, and on June 18th discovered a safe haven for the vessel.

"The neighbourhood of this bay, like most of the northern shores of Spitzbergen, appeared to have been much visited by the Dutch at a very early period, of which circumstances records were furnished at almost every spot where the party landed by the numerous graves they met with. Thirty of these were found on a point of land on the north side of the bay. The bodies had been generally deposited in oblong wooden coffins, not buried, but merely covered with large stones; a board near the head record the name of the deceased, the ship, her commander, and her date—one was so far back as 1690."

Parry now started on his boat voyage, taking seventy-one days' provisions. The words of that brave commander will best describe the actual mode pursued:—

"Our plan of travelling being nearly the same throughout this excursion, after we first entered upon the ice, I may at once give some account of

our usual mode of proceeding. It was my intention to travel wholly at night, and to rest by day, there being of course constant daylight in these regions during the summer season. The advantage of this plan, which was occasionally deranged by circumstances, consisted, first, in our avoiding the intense and oppressive glare from the snow during the time of the sun's greatest altitude, so as to prevent, in some degree, the painful inflammation in the eyes, called 'snow blindness,' which is common in all snowy countries. We also thus enjoyed greater warmth during the hours of rest, and had a better chance of drying our clothes; besides which, no small advantage was derived from the snow being harder at night for travelling. The only disadvantage of this plan was, that the fogs were sometimes more frequent and more thick by night than by day, though even in this respect there was less difference than might have been supposed, the temperature during the twenty-four hours undergoing but little variation. This travelling by night and sleeping by day so completely inverted the natural order of things, that it was difficult to persuade ourselves of the reality. Even the officers and myself, who were all furnished with pocket chronometers, could not always bear in mind at what part of the twenty-four hours we had arrived; and there were several of

the men who declared, and I believe truly, that they never knew night from day during the whole excursion."

The party must have been grievously disappointed on finding the state of the ice wholly the reverse of what it had been represented before setting out. Instead of being a fine, smooth level plain, "over which a coach might have been driven many leagues"; instead of compact floes, it consisted entirely of small loose and rugged masses, obliging them to make three journeys, and sometimes four, with the boats and baggage, and to launch several times across narrow pools of water.

July 1st brought no better ice: the soft snow was most fatiguing. Parry continues the narrative:—

"As soon as we arrived at the other end of the floe, or came to any difficult place, we mounted one of the highest hummocks of ice near at hand (many of which were fifteen to twenty-five feet above the sea), in order to obtain a better view around us, and nothing could well exceed the dreariness which such a view presented. The eye wearied itself in vain to find an object but ice and sky to rest upon, and even the latter was often hid from our view by the dense and dismal fogs which so generally prevailed. For want of variety the most trifling circumstances engaged a more than ordinary share of our attention; a passing gull, a

mass of ice of unusual form, became objects which our situation and circumstances magnified into ridiculous importance; and we have since often smiled to remember the eager interest with which we regarded many insignificant occurrences. It may well be imagined, then, how cheering it was to turn from this scene of inanimate desolation to our two little boats in the distance, to see the moving figures of our men winding with their sledges among the hummocks, and to hear once more the sound of human voices breaking the stillness of this icy wilderness. In some cases Lieut. Ross and myself took separate routes to try the ground, which kept us almost continually floundering among deep snow and water. The sledges having been brought up as far as we had explored, we all went back for the boats; each boat's crew, when the road was tolerable, dragging their own, and the officers labouring equally hard with the men. It was thus we proceeded for nine miles out of every ten that we travelled over ice, for it was very rarely indeed that we met with a surface sufficiently level and hard to drag all our loads at one journey, and in a great many instances during the first fortnight we had to make three journeys with the boats and baggage; that is, to traverse the same road five times over."

The present writer may here, without disparaging

PARRY ON THE ICE.

Face page 94.

the grand efforts of Parry and his party, remark that much of their trouble might have been saved by the use of snow shoes. They constantly, and with doubtless good reason, complain of the soft snow encountered. In one place they admit that it took them two hours to make a distance of 150 yards! The narrative continues:—

"In proportion then to the hopes we had begun to entertain was our disappointment in finding at noon that we were in latitude 82° 43′ 5″, or not quite four miles to the northwards of yesterday's observation, instead of the ten or eleven which we had travelled! However, we determined to continue to the last our utmost exertions, though we could never once encourage the men by assuring them of our making good progress; and, setting out at seven in the evening, soon found that our hope of having permanently reached better ice was not to be realised, for the floe on which we slept was so full of hummocks, that it occupied us just six hours to cross it, the distance in a straight line not exceeding two miles and a-half."

They often laughingly remarked that they were a long time getting to this 83°! It became obvious that they were employed in a labour comparable to which the labour of Sisyphus was nought. On the 23rd, after five weeks' incessant travel, they had only reached the latitude of 82° 45′, and, after a

brief rest, it was decided to return. This they appear to have done mournfully; no party has ever since that time got so far, and Parry's statement appended will best show that their perseverance deserved a greater reward.

"The distance traversed during this excursion was five hundred and sixty-nine geographical miles; but, allowing for the number of times we had to return for our baggage during the greater part of the journeys over the ice, we estimated our actual travelling at nine hundred and seventy-eight geographical, or eleven hundred and twenty-seven statute miles. Considering our constant exposure to wet, cold, and fatigue, our stockings having generally been drenched in snow-water for twelve hours out of every four-and-twenty, I had great reason to be thankful for the excellent health in which, upon the whole, we reached the ship."

CHAPTER X.

Franklin's Early Career—The Fight at Copenhagen—Explorations on the Australian Coasts—His Tutor Flinders—Wrecked on a Reef in Torres Straits—Life on a Sand-bank—Trafalgar—Wounded at New Orleans—Commencement of his Arctic Experiences.

SHERARD OSBORNE, whose comparatively early death we have had this year to deplore, gathered and gave to the world some very interesting facts connected with the life of Franklin.* He tells us that, "like Cook, Dampier, and Nelson, his first essay was on board a merchant ship (into which he had been sent to disgust him of the sea), and like them the hardships of a sailor's life were more than counterbalanced in his opinion by the charms of its unceasing change, novelty, and excitement."

In those good old times, his Majesty George III., of glorious memory, rejoiced in ships named after personages tabooed in these more modern days, and on board of one entitled the *Polyphemus*, a stout sixty-four, commanded, no doubt, by an equally

* "The Career, Last Voyage, and Fate of Franklin." By Captain Osborne, C.B., &c.

stout Captain Lawford, our young sailor (now fourteen years old) entered, in 1800, as a quarterdeck petty officer to make his first experiences of the Royal Navy.

Within a year, the Lincolnshire boy shared in the terrible sea-fight at Copenhagen, at the time when Nelson crushed the great Northern Confederacy formed for the humiliation of England; and, as leading ship in the attack, the *Polyphemus* covered herself with laurels, and young Franklin soon after returned home, to tell the old and young folks, in and around his home, how the modern Dane had submitted to the sword of the descendant of their viking forefathers. But John Franklin had intuitively learnt that for

> "Sluggard's brow the laurel never grows—
> Renown is not the child of indolent repose."

And within two months he had succeeded in entering on board of the discovery-ship *Investigator*, commanded by his relative, the distinguished navigator, Captain Flinders. This step naturally led his mind into those scientific pursuits which eventually rendered Franklin one of the most ardent and trustworthy of our geographical explorers.

For more than two years we see the *Investigator* —old, leaky, and crazy, such a vessel as, in our day, would not be deemed fit even for the work of

a collier—struggling along the then unknown shores of that great southern continent to which Flinders first gave the appropriate name of Australia. It was a school of hardship and painful labour, yet not devoid of interest to the ardent young sailor; and in all probability it was in making there the first discoveries of many a mile of coast, many a reef, many a haven, that Franklin's mind became first imbued with that sincere love of geographical exploration and maritime discovery which subsequently formed so prominent a feature in his professional career.

Flinders was exactly the man to awaken such feelings in one so intelligent as John Franklin. He had been one of that goodly company of circumnavigators who won for England the honour of having really explored the great South Sea. He could tell of Otaheite, and explain how our rough, uncared-for seamen of that day forsook their country and king for the love of its warm-hearted people. He had witnessed the ferocity of the Sandwich Islanders, and could thrill his listeners with that awful hour of murder and cannibalism in which the greatest of England's navigators fell. He had weathered many a danger upon the inhospitable shores of the then unknown Australia, and often navigated in high southern latitudes. He had in a little boat in bygone days circumnavigated the tem-

pestuous coasts of Van Diemen's Land, and shared with Bass the honour of discovering the strait which bears the name of the latter. The clever, modest, and unassuming Flinders formed the character, and imparted much of his knowledge and information to the youth, whose destiny it was, in after years, to fall as the discoverer of the North-West Passage.

Napoleon I. was then, with characteristic ambition and far-sightedness, striving to establish a lien by priority of discovery upon the coast of the great continent with which Cook's voyages had only made Europe partially acquainted. Flinders and his gallant little band of associates succeeded, however, in forestalling the French navigators in every quarter, exhibiting a rare degree of perseverance, zeal, and ability, for which he has not in Great Britain ever received due credit. At last the glorious old *Investigator* showed unmistakable signs of being no longer seaworthy, and her crew were likewise nigh worn out with scurvy and dysentery. She was condemned at Port Jackson, and Franklin embarked in 1803, with his captain and shipmates, on board H.M.S. *Porpoise* for a passage to England.

Passing north-about round Australia, the *Porpoise*, with two consorts, found themselves entangled amongst the reefs, then but little known, of Torres Strait. Under treble-reefed topsails they sought

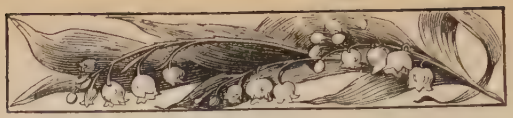
their way. In the darkness of the night of August 18th, the leading ship descried breakers close ahead, and, as she fell upon the reef, fired a gun to warn the vessels in her wake. The *Porpoise*, in a few minutes, was staved and dismasted, but happily she tumbled over with her deck towards the reef, and her bottom thus saved her from immediate destruction amongst the charging rollers of the South Sea. One of her consorts struck, and, less fortunate than the *Porpoise*, fell towards the sea, and broke up instantly, with considerable loss of life. The other vessel fled in a dastardly manner, and her commander only escaped the punishment due to such an offence by the vessel and crew foundering in the Indian Ocean. Our young sailor now found himself one of ninety-four souls on a sand-bank—very little more than a wash, 400 feet long, with the then inhospitable coast of Australia 180 miles distant. The nearest point at which succour was to be found was Port Jackson, 750 miles off. Thither Flinders proceeded in an open boat, and, by God's mercy, reached it in time to return with the means of rescuing all his officers and crew.

An opportunity offering for China, Franklin and some of his companions proceeded thither, under command of Lieutenant Fowler, later returning home in one of the Honourable Company's ships from Canton.

"Before another year had passed over his head, he was signal midshipman on board the *Bellerophon*, 74, and, on the memorable 21st October, 1805, he fought again with Nelson at Trafalgar. We see the Lincolnshire lad pass through all the phases from childhood to manhood, from the skylarking middy to the steady, trustworthy lieutenant, tempered in a school of patient perseverance, and not spoilt by constant success. He saw the failure at Flushing; he marked how the under-estimating of a foe brought down upon his profession the mischances of the American war; and, in the disastrous attempt to capture New Orleans, he was for the first time wounded."

"The young, enthusiastic, intelligent lieutenant, then thirty-one years of age, was just the man to win the kind offices of keen observers of merit like Sir Joseph Banks and Sir John Barrow. The long-vexed question of a passage to the Pacific through the Arctic zone was just revived. The writings of Scoresby, an observant and skilful fisher of whales, attracted public attention to Arctic discovery. Scientific men adopted and enlarged upon his views; and at last, after long years of trial and disappointment, England achieved . . . the problem she undertook to solve—the discovery of the north-west passage to the Indies—by that same Franklin, who may be said to represent the Alpha and Omega of modern Arctic exploration."

It will be observed that Sherard Osborne always credited Franklin with the prior discovery of the North-West Passage, although fully admitting McClure's claims in the same connection.



CHAPTER XI.

Franklin's Land Journey—Hudson's Bay Territory—Intense Cold—Effects of Freezing—Spring Musquitoes—Down the Coppermine River—Sea Travel by Canoe—Return—Terrible Sufferings of the Party—Deaths from Exhaustion—Murder of Hood—Retaliation—Home again—Second Land Journey of Franklin.

WHILE Parry was so engaged by sea, Franklin was now employed in surveys connected with the northern coasts of America. Round his name how many glorious memories rise, thoughts mingled too with so much sadness! Brave, zealous, and enterprising, a whole nation—nay, every nation worthy of the name—deplores the fate against which neither he nor his little band could fight, but to which none succumbed till the Inscrutable decreed it must be otherwise. Then, "as they fell, they died."

The expedition under notice left England on May 22nd, 1819, reaching York Factory, Hudson's Bay, at the end of August. Here they were received cordially by the officers of the Hudson's Bay and North West Companies, and full orders were issued by Franklin that the quarrels of these

then rival trading corporations should in no way be allowed to interfere with their progress. The party consisted of Franklin, Dr. (later Sir) John Richardson, Back (afterwards knighted), Hood, and a faithful sailor named Hepburn, who is often mentioned in very honourable terms. The explorers followed the route of the *voyageurs* of the company to Cumberland House, whence Franklin, Back, and Hepburn proceeded to Carlton House and Chipewyan, a winter journey of 857 miles. The others joined them later, and some eighteen *voyageurs* and interpreters were engaged. They again started, reaching Fort Providence on July 28th, 1820, thence proceeding to a point already determined upon, where they set about the erection of a house for winter quarters, and which they named Fort Enterprise. Back and others had to return to the trading posts before mentioned to procure provisions and other supplies, and the former was exposed to severe hardships, of which starvation and intense cold were only part. He traversed 1,104 miles on this journey. Franklin describes the cold of December as follows :—

"The weather during this month was the coldest we experienced during our residence in America. The thermometer sank on one occasion to 57° below, and never rose beyond 6° above it; the mean for the month was—29°7. During these intense colds, however, the atmosphere was generally calm, and

the wood-cutters and others went about their ordinary occupations without using any extraordinary precautions, yet without feeling any bad effects. They had their reindeer shirts on, leathern mittens lined with blankets, and furred caps; but none of them used any defence for the face, nor did they need to do so. Indeed we have already mentioned that the heat is most rapidly abstracted from the body during strong breezes; and most of those who have perished from cold in this country have fallen a sacrifice to their being overtaken on a lake, or other unsheltered place, by a storm of wind. The intense colds were, however, detrimental to us in another way. The trees froze to their very centres, and became as hard as stones, and more difficult to cut. Some of the axes were broken daily, and by the end of the month we had only one left that was fit for felling trees. By entrusting it only to one of the party who had been bred a carpenter, and who could use it with dexterity, it was fortunately preserved until the arrival of our men with others from Fort Providence."

At the beginning of spring, the warm weather, by the sudden melting of the snow and ice, deluged the face of the country, and gave rise to a remark of Mr. Hood, the truth of which has been proved by many well-attested facts. He says: "The noise

made by the frogs, which this inundation produced, is almost incredible. There is strong reason to believe that they outlive the severity of winter. They have often been found frozen, and revived by warmth ; nor is it possible that the multitude which incessantly filled our ears with its discordant notes could have been matured in two or three days." Strong doubts had long before this been entertained of the correctness of the fact here stated, but experiments made by competent persons proved that not only frogs, but leeches, snails, grubs, fishes, and other animals, could be frozen by artificial cold and revived. It was further ascertained that frogs would revive if the heart even was frozen, but that if the brain was congealed life became so irrecoverably extinct that not only could no degree of warmth produce symptoms of recovery, but the animal was rendered incapable of being affected by the galvanic action. "I have frequently," says Hearne, "seen frogs dug up with the mass, frozen as hard as ice, in which state the legs are as easily broken off as a pipe-stem ; but," he adds, "if they be permitted to freeze again they are past all recovery."

Captain Franklin also notices the resuscitation of fishes after being frozen :—

"It may be worthy of notice here, that the fish froze as they were taken out of the nets, and in a

short time became a solid mass of ice, and by a blow or two of the hatchet were easily split open, when the intestines were removed in one lump. If in this completely frozen state they were thawed before the fire they recovered their animation. This was particularly the case with the carp, and we had occasion to observe it repeatedly, as Dr. Richardson occupied himself in examining the structure of the different species of fish, and was always, in the winter, under the necessity of thawing them before he could cut them. We have seen a carp recover so far as to leap about with much vigour after it had been frozen for thirty-six hours."

Among the pests of the regions bordering on the Arctic are the musquitoes, which in summer-time are often as great nuisances as in more temperate climes. Mr. Hood makes the following remarks in his journal regarding these tormentors :—

"We had sometimes before procured a little rest by closing the tent, and burning wood or flashing gunpowder within, the smoke driving the musquitoes into the crannies of the ground. But this remedy was now ineffectual, though we employed it so perseveringly as to hazard suffocation ; they swarmed under our blankets, goring us with their envenomed trunks, and steeping our clothes in blood. We rose at daylight in a fever, and our misery was unmitigated during our whole stay.

"The food of the musquito is blood, which it can extract by penetrating the hide of a buffalo; and if it is not disturbed, it gorges itself so as to swell its body into a transparent globe. The wound does not swell, like that of the African musquito, but it is infinitely more painful; and when multiplied an hundred-fold, and continued for so many successive days, it becomes an evil of such magnitude that cold, famine, and every other concomitant of an inhospitable climate must yield the pre-eminence to it. It chases the buffalo to the plains, irritating him to madness, and the reindeer to the sea-shore, from which they do not return till the scourge has ceased."

In Alaska the musquitoes are plentiful immediately the warm weather arrives. The moose in the woods surrounding the Great Yukon River, visited some years since by the author, are abundant; but they are utterly vanquished by the little musquito, and are driven to the streams, where they plunge in bodily, wading or swimming, as the case may be, and barely keeping their noses out of water. From this cause they are easily shot or stabbed by the Indians.

Passing over the long winter and their preliminary arrangements, suffice it to say that they reached and embarked upon the Coppermine River on June 30th, 1821, and reached its mouth nineteen days

later. The Canadians were amused at their first view of the sea, and of the seals playing their antics, but did not like the idea of the voyage proposed in birch-bark canoes through an icy sea. Nevertheless an important exploration of the coasts of Bathurst Inlet and of the rest of Coronation Gulf eastward to Point Turnagain was made. At this latter point a severe storm was encountered, and on its abatement the canoes returned westward to Bathurst Inlet, where they were taken up Hood's River, as they expected it would prove a better route. The distance travelled in the Arctic Sea was 650 miles, nor would Franklin have retraced his steps but that the prospect of utter starvation stared all of them in the face. On the return journey unparalleled hardships and misery were endured. For days together they had nothing whatever for food; often, again, only a few berries, or the lichen named *tripe de roche*, to which latter, indeed, the survivors may be said to have owed their lives. On one occasion during the continuance of a gale they remained several days in bed in order to keep down the pangs of hunger, rising from which the intrepid commander fainted. Had they not soon after obtained a few partridges and a musk-ox they must all have perished. Dr. Richardson had to leave behind a valuable collection of plants and minerals, being

unable to carry them. One of their canoes was irreparably broken ; another was left behind by the men who had been transporting it over a land *portage*, as they had given up all hope.

" Things continued in this deplorable state till the 24th, when the killing of five small deer out of a large herd re-animated the drooping spirits of the men, and they asked for a day's rest, which was considered reasonable enough, that the quiet enjoyment of two substantial meals, after eight days' famine, might enable them to proceed more vigorously. On the 26th they reached a branch of the Coppermine River ; and now, for the first time, the people were convinced of their folly in breaking the two canoes.

" Back, the most active and vigorous of the party, was sent forward with some of the hunters to apprize the people at Fort Enterprise of the approach of the rest. Credit and Junius followed them also to hunt. Credit returned, but Junius was missing, and was never after heard of. Several days were here lost in making a raft of willows, which was finished by the 29th ; but all attempts to convey the raft across stream failed, and the scheme was considered hopeless ; the raft, moreover, was of green wood, and the want of poles or paddles rendered the moving of it on the water impracticable. Yet it was of the utmost importance to cross the

river, as any attempt to go round the lakes would be sure destruction to the whole party in their famished and worn down state; two of them having been utterly unable to proceed, were left behind.

"In this hopeless condition, with certain starvation staring them in the face, Dr. Richardson, actuated by the noble desire of making a last effort for the safety of the party, and of relieving his suffering companions from a state of misery, which could only terminate, and that speedily, in death, volunteered to make the attempt to swim across the stream, carrying with him a line by which the raft might be hauled over.

"He launched into the stream with the line round his middle, but when he had got to a short distance from the opposite bank, his arms became benumbed with cold, and he lost the power of moving them. Still he persevered, and turning on his back, had nearly gained the opposite shore, when his legs also became powerless, and to our infinite alarm we beheld him sink. We instantly hauled upon the line, and he came again on the surface, and was gradually drawn ashore, in an almost lifeless state. Being rolled in blankets, he was placed before a good fire of willows, and fortunately was just able to speak sufficiently to give some slight directions respecting the manner of treating him. He recovered strength gradually,

and through the blessing of God was enabled in the course of a few hours to converse, and by the evening was sufficiently recovered to remove into the tent. We then regretted to learn that the skin of his whole left side was deprived of feeling, in consequence of exposure to too great heat. He did not perfectly recover the sensation of that side until the following summer. I cannot describe what every one felt at beholding the skeleton which the doctor's debilitated frame exhibited. When he stripped, the Canadians simultaneously exclaimed, '*Ah! que nous sommes maigres!*' I shall best explain his state and that of the party, by the following extract from his journal: 'It may be worthy of remark that I should have had little hesitation, in any former period of my life, at plunging into water, even below 38° Fahrenheit; but at this time I was reduced almost to skin and bone, and, like the rest of the party, suffered from degrees of cold that would have been disregarded in health and vigour. During the whole of our march, we experienced that no quantity of clothing would keep us warm whilst we fasted.'"

A settled despondency now hung like a pall on them. Franklin, wishing to hasten the operations of one of the men, three-quarters of a mile distant, spent three hours in a vain attempt to reach him, his strength being unequal to the labour of wading

through the deep snow, and he returned quite exhausted and much shaken by the numerous falls he had got. His associates were all in the same debilitated state ; and poor Hood was reduced to a perfect shadow, from the severe bowel complaints which the *tripe de roche* never failed to give him. Back was so feeble as to require the support of a stick in walking, and Dr. Richardson had lameness superadded to weakness. The *voyageurs* were somewhat stronger than the rest, but more indisposed to exertion, on account of their despondency. The sensation of hunger was no longer felt by any of them, yet they were scarcely able to converse upon any other subject than the pleasures of eating. Franklin says that they were much indebted to Hepburn at this crisis. The officers were unable, from weakness, to gather *tripe de roche* themselves, and Samandré, who had acted as cook on the journey from the coast, sharing in the despair of the rest of the Canadians, refused to make the slightest exertion. Hepburn, on the contrary, animated by a firm reliance on the beneficence of the Supreme Being, tempered with resignation to His will, was indefatigable in his exertions to serve them, and daily collected all the *tripe de roche* that was used in the officers' mess.

On October 4th they all safely landed on the southern bank of the river, one at a time, the canoe

being drawn backwards and forwards in succession till all had crossed. It was then determined that Franklin, with eight of the party, should push on and endeavour to send back assistance. Four of these were so utterly broken down, that after vainly attempting to keep up, they could not proceed. Of these four, but one returned to the encampment in charge of Dr. Richardson ; the other three *were no more heard of.* Arrived at Fort Enterprise they found no provisions and no inhabitants. They had on the way eaten *a part of their boots:* at the house they found some deer-skins and bones, which they softened and cooked. Franklin determined to push on to the next fort, but found that after six hours' travel he could only make four miles, and the day after he fell exhausted among some rocks. He let two of the Canadians proceed, while he returned to the miserable house. Here he passed eighteen days with the three men, when Dr. Richardson and Hepburn arrived, bringing the intelligence that Mr. Hood and Michel, one of the Indians, were dead. Their terrible sufferings had culminated in a tragedy. Michel, the Iroquois Indian, had been noticed to be in strong health and spirits, while the rest were famishing, and he had refused to assist them. The doctor and Hepburn were therefore obliged to go in search of *tripe de roche,* leaving poor Hood by the fire. When

they returned, Hood was lying lifeless, with a bullet through his head. All the circumstances (detailed at full in the narrative) pointed to Michel as his murderer, and Dr. Richardson, thoroughly convinced of the fact, shot him dead as he approached. It further transpired that the Indian must have murdered the exhausted men who were returning from Franklin's party, and have eaten part of their remains.

"The loss of a young officer, of such distinguished and varied talents and application, may be felt and duly appreciated by the eminent characters under whose command he had served; but the calmness with which he contemplated the probable termination of a life of uncommon promise, and the patience and fortitude with which he sustained, I may venture to say, unparalleled bodily sufferings, can only be known to the companions of his distresses. Bickersteth's 'Scripture Help' was lying open beside the body, as if it had fallen from his hand, and it was probable that he was reading it at the instant of his death."

"The emaciated countenances of the doctor and Hepburn," says the narrative, "gave evidence of their debilitated state. The doctor particularly remarked the sepulchral tones of our voices, which he requested of us to make more cheerful, if possible, unconscious that his own partook of the same

key." A partridge which Hepburn had shot was held to the fire, and then divided into six portions. "I and my three companions," says Franklin, "ravenously devoured our shares, as it was the first morsel of flesh any of us had tasted for thirty-one days, unless, indeed, the small gristly particles which we found occasionally adhering to the pounded bones may be termed flesh." Piety and resignation under calamity are characteristics of the naval profession ; and on the present occasion of distress we are told, "the doctor having brought with him his Prayer-Book and Testament, some prayers and psalms, and portions of Scripture appropriate to our situation, were read, and we retired to bed."

After a long time Back forwarded supplies by friendly Indians, having himself suffered hardships scarcely second to those recorded above. The party at length reached Fort Chipewyan, where their worst troubles were over.

English pluck is proverbial, nevertheless one would have supposed that Franklin and his party had dared enough in the sterile regions bordering on the Arctic to have entitled them to a long rest. We find, however, that nothing could subdue their love of adventure in the cause of science, and during 1825—26 and 27, Franklin (just knighted), Dr. Richardson, and Back again left England for the

northernmost parts of the Hudson's Bay Company's territory. On this expedition Franklin, after wintering in 1825—26 on Great Bear Lake, descended the Mackenzie River into the Arctic, and surveyed the coast as far as Return Reef, more than 1,000 miles of travel each way. In connection with the same survey, Captain Beechey, of the *Blossom*, had entered Bering's Straits, and had in boats explored the coast beyond Captain Cook's Icy Cape, as far as Point Barrow, the extreme N.W. cape of America. Meantime Dr. Richardson and Lieut. Kendall were exploring eastward of the Mackenzie. These expeditions, albeit requiring much personal bravery and endurance, were not marked by any of the painful circumstances attending the former ones. Several later expeditions in which Rae, Ross (James Clarke), Dease, Simpson, and others took part, do not come within the scope of the present work.

CHAPTER XII.

Sir John Franklin's Last Expedition—The Last Letters—Alarm felt in England—Searching Expeditions organised—Dr. Rae's Discoveries—The First Relics—Appeal to the Government—Noble Lady Franklin—M'Clintock's Voyage—The *Fox* in the Pack—Eight Months in the Ice—Winter Searches—Hobson and M'Clintock's Discoveries—The Wrecked Ships—Relics obtained—The Skeleton on the Beach.

IN 1845 a new expedition was organised by the Admiralty to make one more attempt at the north-west passage. Captain Sir John Franklin, who had been acting for the previous five years as Lieutenant-Governor of Tasmania, was placed in command, with Captain Crozier, Commander Fitzjames, Lieutenant Fairholme, and other officers of experience as his subordinates. The two vessels, *Erebus* and *Terror*, had been much strengthened, auxiliary screws, engines, and fuel provided, and they were provisioned for three years. The expedition sailed on May 19th, and reached a point near Disco, Greenland, early in July. There a transport, which had accompanied them with stores, was despatched with letters—the last letters—from the officers and

crews to their friends in England. At this time Sir John Franklin, nearly sixty years of age, was hale, hearty and active.

The expedition was last seen by a whaler on the 26th of the same month, after which nothing was heard from it of a certain nature till 1854, nor were even the sad outlines then obtained filled in till 1859, when M'Clintock for ever set the matter at rest.

About a year and a half after the expedition had been last seen, Sir John Ross addressed letters to the Admiralty, &c., in which he expressed the idea that the ships were frozen in near the western end of Melville Island. No alarm was felt; nevertheless the Admiralty authorities called a council of naval officers who had served in the Arctic. They considered that no serious fears need be entertained, but that preparations should be made for the relief of the party, provided no further information should arrive that summer. This was immediately done: light boats with supplies were sent to Hudson's Bay; two ships to proceed, in 1848, on Franklin's route, were ordered to be strengthened; and others were sent at the end of 1847, to meet him with supplies at Bering's Straits.

It would be impossible here to record all the various expeditions sent out from this time forth. The Government fitted out a whole series of search-

ing expeditions; the Hudson's Bay Company several land parties; Lady Franklin spent nearly the whole of her private fortune, and private aid came from all quarters. America furnished such noble men as Kane and others, who, aided by a munificent New York merchant, did wonders in the Arctic; and France added a Bellot and a De Bray. England, at different times and different ways, up to 1859, sent out no less than thirty-two vessels; the United States three; land expeditions, five, partly provided by the Hudson's Bay Company. The mere enumeration of these, with the special instructions given to each party, and briefest account of their labours, would take several volumes like the present. We can only glance briefly at a few of them.

Between 1847 and 1850 the following expeditions were in the Arctic Ocean or regions employed on this search:—

Sir John Richardson and Dr. Rae, overland, and along the coast from the Mackenzie to the Coppermine. Capt. Kellet, H.M.S. *Herald*; Capt. Moore, H.M.S. *Plover*; R. Shedden, Esq., in private yacht, *Nancy Dawson*, to Bering's Straits. Capt. Sir James Clarke Ross, H.M.S. *Enterprise*; Capt. Bird, H.M.S. *Investigator*, to Lancaster Strait. J. Saunders, Esq., Master of H.M.S. *North Star*, to Wolstenholme Sound and Pond's Bay; Dr. Goodsir, in the whaler *Advice*, to Baffin's Bay; Lieut. Pullen, H.M.S. *Herald*, boat voyage from Bering's Straits to the Mackenzie. Capt. Forsyth, R.N., in Lady Franklin's vessel *Prince Albert*, to Regent's Inlet and Beechey Island.

In 1850—51, when the anxiety felt by all was at its

culminating point, the following expeditions were despatched :—

Lieut. De Haven, U.S.N., in the *Advance*, and S. P. Griffin, Esq., U.S.N., in the *Rescue*, to Lancaster Strait and Wellington Channel, both at the expense of H. Grinnell, Esq., of New York. Capt. Austin, H.M.S. *Resolute*, and Capt. Ommaney, H.M.S. *Assistance*, to Lancaster Strait and Cornwallis Island. W. Penny, Esq., Master of the *Lady Franklin*, and A. Stewart, Esq., Master of the *Sophia*, both under Admiralty orders, to Lancaster Strait and Wellington Channel. Rear-Admiral Sir John Ross, in the yacht *Felix*, to Lancaster Sound, at the expense of the Hudson's Bay Company. Commander (now Capt. Sir) Robert M'Clure, H.M.S. *Investigator*, to Bering's Straits, Banks' Island, and Lancaster Strait.

From 1851 to 1855 :—

Captain (now Admiral) Collinson, H.M.S. *Enterprise*, to Bering's Straits, Banks' Island, and Cambridge Bay. Dr. Rae, descent of the Coppermine, coasts of Wollaston Land, &c. W. Kennedy, Esq., Master of Lady Franklin's vessel, *Prince Albert*, to Prince Regent Inlet, Bellot's Strait, and Prince of Wales Island. Capt. Frederick, H.M.S. *Amphrite*, to Bering's Straits. Capt. Inglefield, in the *Isabel*, Lady Franklin's vessel, to Lancaster Sound. Capt. Sir Edward Belcher, H.M.S. *Assistance*, to Wellington Channel. Capt. Kellet, H.M.S. *Resolute*, to Lancaster Strait, Melville and Banks' Islands. Lieut. Osborne, H.M.S. *Pioneer*, to Wellington Channel. Capt. M'Clintock (since knighted) H.M.S. *Intrepid*, to Lancaster Strait and Prince Arthur Island. Capt. Pullen, H.M.S. *North Star*, Beechey Island. Capt. Maguire, H.M.S. *Plover*, Bering's Straits. W. H. Fawckner, Esq., Master R.N., *Breadalbane*, transport; Lieut. Elliott, store ship *Diligence*; Capt. Inglefield, H.M.S. *Phœnix*, all to Beechey Island. Dr. Rae, sledge and boat journey to Wollaston Land, Victoria Strait, &c.; also (1853—54) to Repulse Bay. Capt. Inglefield, H.M.S. *Phœnix*, Commander Jenkins of the *Talbot*, both to Beechey Island. Dr. Kane, U.S.N., to Smith's Sound, Humboldt Glacier, and Grinnell Land. John Anderson, Esq., canoe voyage down Great Fish River to Montreal Island and Point Ogle.

Lastly, from 1857 to 1859:—

Capt. M'Clintock, R.N., in Lady Franklin's yacht *Fox*, to Peel's Sound, Regent's Inlet, Bellot Strait, King William's Island, and Montreal Island.

It was later proved that the routes ordered by the Admiralty were well devised, yet, with the exception of some pieces of a wreck purchased from the Esquimaux by Captain Collinson, and supposed to be parts of the *Erebus* or *Terror*, it was reserved for private enterprise to make the only real discoveries of value.

Dr. John Rae was, in 1853—54, engaged in the service of the Hudson's Bay Company, who had despatched him to Repulse Bay, one object of his mission being to settle an important geographical problem, bearing, however, nought on our subject. On this journey he obtained positive evidence from the Esquimaux of the fate of the *Erebus* and *Terror* parties. In the spring—six years before—about forty white men had been seen dragging a boat and sledges over the ice on the western end of the island. They made signs to indicate that their ships had been crushed in the ice, and that they were trying to reach a place where they could find deer. All the men worked with the sledges, except one tall, stout, middle-aged officer. They were much reduced in flesh, and were evidently half-starved.

At a later period of the same year, the corpses of

some thirty persons and some graves were discoverd by the natives on the mainland, and five other bodies on an island close to it, about a day's journey north-west of Back's Great Fish River. Many of them had died in their tents : one, supposed to have been an officer, was described as lying on his double-barreled gun, with his telescope yet strapped to his shoulders. Dr. Rae's report, in addition to the relics purchased by him from the natives, pieces of silver-plate and other articles known to have been in the possession of the officers, was considered sufficient proof of the entire loss of the Franklin Expedition. He and his party, therefore, received the long-offered reward of £10,000, promised to anyone who should bring intelligence of their fate. Next season confirmatory evidence of a very meagre nature and more relics were obtained by Mr. Anderson, one of the Hudson Bay Company's chief factors.

All this, very naturally, did not satisfy Lady Franklin, the noble wife of a noble man, and not having yet abandoned all hope, she urged the Government to make one more effort. Her appeal, backed as it was by the most eminent scientific men and distinguished naval officers, failed. But Lady Franklin was not to be crushed by official apathy in high places. She immediately set about fitting out the yacht *Fox*, and, aided by private

subscriptions, but more by the generous volunteers who offered to serve on her vessel, the expedition was speedily organised. Captain (now Sir) Leopold M'Clintock, Lieutenant Hobson, Captain Allen W. Young, of the merchant service, and Dr. David Walker, the surgeon, offered their services gratuitously. It is right to add that the Government, although declining to send out an expedition, contributed to the supplies.

The *Fox* left late in June, 1857, but in attempting to cross Baffin's Bay became "beset in the middle pack" of ice, and did not get out of it for 242 days; in other words, she was helplessly drifting about for two-thirds of a year, with the prospect of being crushed to pieces at any moment. On April 24th, 1858, a storm broke up the masses, and by a miracle she escaped without serious damage, and immediately proceeded north, touching at Greenland. M'Clintock mentions a whaler who lost his ship in little less time than it takes to tell the story. "It was a beautiful morning; they had almost reached the north water, and were anticipating a very successful voyage; the steward had just reported breakfast ready, when Captain Deuchars, seeing the floes closing together a-head of the ship, remained on deck to see her pass safely between them, but they closed too quickly; the vessel was *almost* through, when the points of ice caught her sides,

abreast of the mizen-mast, and, passing through, held the wreck up for a few minutes, barely long enough for the crew to escape and save their boats! Poor Deuchars thus suddenly lost his breakfast and his ship; within *ten minutes* her royal yards disappeared beneath the surface." Such are the dangers which beset the Arctic cruiser. The vessel just mentioned was a fine strong ship; but under certain conditions of moving, grinding ice, no vessel is safe, and may be cracked like a nut-shell without a moment's warning.

After several detailed examinations of Eclipse Sound, Pond's Bay, Peel Strait, Regent's Inlet, and Bellot Strait, the vessel was laid up for the winter in a harbour of the latter. The previous experience acquired by M'Clintock and his associates proved very valuable at this period, and probably no party ever passed a more thoroughly satisfactory winter in the Arctic. Some few extracts from his journal will prove interesting at this juncture :—

"*Nov. 7th, Sunday evening.* — Brief as is the interval since my last entry, yet how awful, and, to one of our small company, how fatal it has been! Yesterday Mr. Brand (the engineer) was out shooting, as usual, and in robust health. . . . . This morning, at seven o'clock, his servant found him lying upon the deck a corpse, having been several hours dead. Apoplexy appears to have been the

cause." M'Clintock himself had to turn engineer at a later period. The remains of Mr. Brand were buried on shore, and a suitable head-board placed over the grave.

Christmas-day was passed right royally, and the evident good feeling between officers and men speaks volumes in favour of both. The thermometer stood at $-47\frac{1}{2}^{0}$ on this day. During January and a large part of February the *mean* temperature was as nearly as possible -33^{0}, or 65^{0} below the freezing point of water.

On the morning of February 17th the weather, which had been for some time boisterous, moderated, and M'Clintock and Young started, with sledges and searching parties, in different directions. On the second day out the thermometer fell to -48^{0}, with north-west wind. For several days the mercury of his artificial horizon remained frozen, and their rum, "at first thick like treacle, required thawing," when the more fluid and stronger part (*i.e.*, the spirit) had been used. A snow hut was built every night. "The four walls were run up until $5\frac{1}{2}$ feet high, inclining inwards as much as possible;" over these the tent was laid to form a roof.

On March 1st, almost exactly at the magnetic pole, some natives were met, and M'Clintock, approaching the subject cautiously, began to question them. "A naval button upon one of their

dresses afforded the opportunity; it came, they said, from some white people who were starved upon an island where there are salmon (that is, in a river); and that the iron of which their knives were made came from the same place."

"Next morning we travelled about ten miles further, by which time we were close to Cape Victoria; beyond this I would not go, much as they (the natives) wished to lead us on; we therefore landed, and they built us a commodious snow hut in half-an-hour; this done, we displayed to them our articles for barter—knives, files, needles, scissors, beads, &c. . . . . Next morning the entire village population arrived, amounting to about forty-five souls, from aged people to infants in arms, and bartering commenced very briskly. First of all we purchased all the relics of the lost expedition, consisting of six silver spoons and forks, a silver medal, the property of Mr. A. M'Donald, assistant-surgeon, part of a gold chain, several buttons, and knives made of the iron and wood of the wreck, also bows and arrows, constructed of materials obtained from the same source."

None of these people had seen the wrecked party. Next morning, March 4th, several other natives arrived. One man told the interpreter, Petersen, distinctly that "a ship having three masts had been crushed by the ice out in the sea to the west of King

William's Island, but that all the people landed safely; . . . the ship sank, so nothing was obtained by the natives from her; all that they have got, he said, came from the island in the river." This information, so far, bore out Dr. Rae's statements, but only accounted for the loss of one ship.

Several sledge parties started out again from the ship on April 2nd, and on their return M'Clintock writes as follows, June 24th :—

"I have visited Montreal Island, completed the exploration and circuit of King William's Island, passing on foot through the only feasible north-west passage; but all this is as nothing to the interest attached to the 'Franklin Records' picked up by Hobson, and now safe in my possession! We now know the fate of the *Erebus* and *Terror*."

We must pass over many of the incidents and difficulties of the journey. On April 20th two families of natives, of the same people previously met at Cape Victoria, were found in their snow huts upon the ice. A few trifling relics were again obtained. M'Clintock, after much anxious inquiry, learned that *two* ships had been seen to sink in deep water off King William's Island: one was afterwards forced on shore by the ice. The information was given reluctantly, as though they were sorry to pain the questioners. The Esquimaux

have the same antipathy to speak of death in any form. The body of one man only had been found on the ship. It was the fall of the year, in August or September, when the ships were destroyed: "All the white people went away to the 'large river,' taking a boat or boats with them," and in the following winter their bones were found there.

On April 28th Hobson and M'Clintock parted. The first marched direct for Cape Felix, King William's Land, whilst the commander took a more southerly course. On May 7th M'Clintock obtained from natives of King William's Island six pieces of silver bearing the crests or initials of Franklin, Crozier, and others. These people averred that little was now left of the wreck on shore. There had been *many books* on board, which had long ago been destroyed by the weather. An old woman who had been to the wreck was questioned closely. She said that "many of the white men dropped by the way as they went to the Great River; that some were buried and some were not." At another place native paddles, shovels, &c., evidently made from parts of boats, were found; at a further point some trifling metallic articles of European manufacture.

On the return journey a cairn near Point Gladman was carefully examined, but nothing found. "We were now," continues the narrator, "upon the

shore along which the retreating crews must have marched. My sledges of course travelled upon the sea-ice close along the shore; and, although the depth of snow which covered the beach deprived us of almost every hope, yet we kept a very sharp look-out for traces, nor were we unsuccessful. Shortly after midnight of the 25th May, when slowly walking along a gravel ridge near the beach, I came upon a human skeleton, partly exposed, with here and there a few fragments of clothing appearing through the snow. The skeleton—now perfectly bleached—was lying upon its face, the limbs and smaller bones either dissevered or gnawed away by small animals.

"A most careful examination of the spot was of course made, the snow removed, and every scrap of clothing gathered up. A pocket-book afforded strong grounds for hope that some information might be subsequently obtained respecting the unfortunate owner and the calamitous march of the lost crews, but at the time it was frozen hard. The substance of that which we gleaned upon the spot may thus be summed up:—

"The victim was a young man, slightly built, and perhaps above the common height; the dress appeared to be that of a steward or officer's servant, the loose bow-knot, in which his neckhandkerchief was tied, not being used by seamen or

officers. In every particular the dress confirmed our conjectures as to his rank or office in the late expedition—the blue jacket with slashed sleeves and braided edging, and the pilot-cloth greatcoat with plain covered buttons. We found, also, a clothes-brush near, and a horn pocket-comb. This poor man seems to have selected the bare ridge top, as affording the least tiresome walking, and to have fallen upon his face in the position in which we found him."

It was a melancholy truth that the old woman spoke when she said, "they fell down and died as they walked along." The Esquimaux had, apparently, never discovered this skeleton.

"AND AS THEY FELL, THEY DIED!"

Face page 133.

CHAPTER XIII.

The Record at Point Victory—Its sad Story—The Abandoned Ships—Death of Franklin—Crozier's Departure with the Crews—The Deserted Boat—The Two Skeletons—Voyage Home of the *Fox*.

ABOUT twelve miles from Cape Herschel M'Clintock found a small cairn, built by Hobson's party, containing a note. He had not seen the wreck or any natives, but had discovered the long sought-for record of the Franklin expedition at Point Victory, on the N.W. coast of King William's Land.

"That record," says M'Clintock, "is indeed a sad and touching relic of our lost friends, and to simplify its contents, I will point out separately the double story it so briefly tells. In the first place, the record paper was one of the printed forms usually supplied to discovery-ships for the purpose of being enclosed in bottles and thrown overboard at sea, in order to ascertain the set of the currents, blanks being left for the date and position; any person finding one of these records is requested to forward it to the Secretary of the Admiralty, with

a note of time and place; and this request is printed upon it in six different languages. Upon it was written, apparently by Lieutenant Gore, as follows:—

"28 of May, 1847. { H.M. Ships *Erebus* and *Terror* wintered in the ice in lat. 70° 05′ N., long. 98° 23′ W.

"Having wintered in 1846-7 at Beechey Island in lat. 74° 43′ 28″ N., long. 91° 39′ 15″ W., after having ascended Wellington Channel to lat. 77°, and returned by the west side of Cornwallis Island.

"Sir John Franklin commanding the expedition.

"All well.

"Party consisting of 2 officers and 6 men left the ships on Monday, 24th May, 1847.

"Gm. Gore, Lieut.
"Chas. F. Des Vœux, Mate."

An obvious error has been discovered in the dates 1846—47, which M'Clintock points out should have been 1845—46, but in other respects the story of their success up to the last date is simple and plain. They had passed Lancaster Sound and entered Wellington Channel, proceeding 150 miles to lat. 77° N. They returned southward and re-entered Barrow Strait. At the conclusion of 1845 they had reason to congratulate themselves on the amount of exploration accomplished. After breaking up winter quarters they proceeded to the S.W., and eventually reached the extreme northern coast of King William's Land, when their progress was again arrested by winter. That winter passed without special difficulty, and at the break up of

the ice Franklin was still alive and Gore had just left on an exploring expedition. But, alas! round the margin of the above-named paper another hand had subsequently written the following words:—

"April 25, 1848.—H.M. Ships *Terror* and *Erebus* were deserted on the 22nd April, 5 leagues N.W. of this, having been beset since 12th September, 1846. The officers and crews, consisting of 105 souls, under the command of Captain F. R. M. Crozier, landed here in lat. 69° 37′ 42″ N., long. 98° 41′ W. Sir John Franklin died on the 11th June, 1847; and the total loss by deaths in the expedition has been to this date 9 officers and 15 men.

"(Signed) (Signed)
"F. R. M. Crozier, James Fitzjames,
"Captain and Senior Officer. Captain H.M.S. *Erebus*.
"And start (on) to-morrow, 26th, for Back's Fish River."

"In the short space of twelve months how mournful had become the history of Franklin's expedition! how changed from the cheerful 'All well' of Graham Gore! The spring of 1847 found them within ninety miles of the known sea off the coast of America; and to men who had already in two seasons sailed over 500 miles of previously unexplored waters, how confident must they then have felt that that forthcoming navigable season of 1847 would see their ships pass over so short an intervening space! It was ruled otherwise. Within a month after Lieutenant Gore placed the record on Point Victory, the much-loved leader of the expedition, Sir John Franklin, was dead; and the

following spring found Captain Crozier, upon whom the command had devolved, at King William's Land endeavouring to save his starving men, 105 souls in all, from a terrible death by retreating to the Hudson Bay territories up the Back or Great Fish River.

"A sad tale was never told in fewer words. There is something deeply touching in their extreme simplicity, and they show in the strongest manner that both the leaders of this retreating party were actuated by the loftiest sense of duty, and met with calmness and decision the fearful alternative of a last bold struggle for life, rather than perish without effort on board their ships; for we well know that the *Erebus* and *Terror* were only provisioned up to July, 1848.

" Hobson had found many relics of the party, to be hereafter mentioned. M'Clintock was still on his homeward journey, when on May 30th he encamped alongside a deserted boat of considerable size, where he found another note from Hobson. A large quantity of tattered clothing remained near it; also canvas, and a quantity of deep-sea sounding line. But there was that in the boat which transfixed them with awe. It was portions of two human skeletons. One was that of a slight young person; the other of a large, strongly-made, middle-aged man. The former was found in the

bow of the boat, but in too much disturbed a state to enable Hobson to judge whether the sufferer had died there; large and powerful animals, probably wolves, had destroyed much of this skeleton, which may have been that of an officer. Near it we found the fragment of a pair of worked slippers. . . . . Besides these slippers there were a pair of small strong shooting half-boots. The other skeleton was in a somewhat more perfect state, and was enveloped with clothes and furs; it lay across the boat under the after-thwart. Close beside it were found five watches; and there were two double-barrelled guns—one barrel in each loaded and cocked—standing muzzle upwards against the boat's side. It may be imagined with what deep interest these sad relics were scrutinised, and how anxiously every fragment of clothing was turned over in search of pockets and pocket-books, journals, or even names. Five or six small books were found, all of them scriptural or devotional works, except the 'Vicar of Wakefield.' One little book, 'Christian Melodies,' bore an inscription upon the title-page from the donor to G. G. (Graham Gore?) A small Bible contained numerous marginal notes, and whole passages underlined. Besides these books, the covers of a New Testament and Prayer-Book were found.

"Amongst an amazing quantity of clothing there

were seven or eight pairs of boots of various kinds —cloth winter boots, sea boots, heavy ankle boots, and strong shoes. I noted that there were silk handkerchiefs—black, white, and figured—towels, soap, sponge, tooth-brush, and hair-combs ; Macintosh gun-cover, marked outside with paint A. 12, and lined with black cloth. Besides these articles we found twine, nails, saws, files, bristles, wax-ends, sail-makers' palms, powder, bullets, shot, cartridges, wads, leather cartridge-case, knives—clasp and dinner ones—needle and thread cases, slow-match, several bayonet scabbards cut down into knife-sheaths, two rolls of sheet-lead, and, in short, a quantity of articles of one description and another truly astonishing in variety, and such as, for the most part, modern sledge-travellers in these regions would consider a mere accumulation of dead weight, but slightly useful, and very likely to break down the strength of the sledge-crews.

"The only provisions we could find were tea and chocolate. Of the former very little remained, but there were nearly forty pounds of the latter. These articles alone could never support life in such a climate, and we found neither biscuit nor meat of any kind. A portion of tobacco and an empty pemmican-tin, capable of containing twenty-two pounds weight, were discovered. The tin was marked with an E; it had probably belonged to

the *Erebus*. None of the fuel originally brought from the ships remained in or about the boat, but there was no lack of it, for a drift-tree was lying on the beach close at hand, and had the party been in need of fuel they would have used the paddles and bottom boards of the boat.

"In the after-part of the boat we discovered eleven large spoons, eleven forks, and four tea-spoons, all of silver; of these twenty-six pieces of plate eight bore Sir John Franklin's crest, the remainder had the crest or initials of nine different officers. . . . One of the watches bore the crest of Mr. Couch, of the *Erebus;* and as the pemmican-tin also came from that ship, I am inclined to think the boat did also."

Both Hobson and M'Clintock exerted their utmost to discover further traces, but without success, and the wrecks were never seen by either. The present writer need not further describe the many relics obtained by Hobson, and which are to be seen by any visitor to Greenwich Hospital.

The sad story is ended: may none such ever again have to be recorded! Every man of that brave band perished. Some few died in the common course of nature, but by far the larger proportion fell while vainly struggling to reach a haven of safety. "And as they fell, they died!"

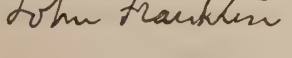
The different sledge parties reached the *Fox*

safely. We have followed two of them: Captain Allan Young, the third, had adventurously left the ship with but a single companion; they had pursued their solitary march over Victoria Strait on the ice, and explored the coast of Prince of Wales Land to its extreme southern point. Thence they proceeded to the north-west coast, and had, in honour of their commander, given the name of M'Clintock Channel to the broad Sound which separates Prince of Wales Land from Victoria Land. He had returned to the ship, obtained a fresh supply of food and again set out, crossing Victoria Strait, passing round the north coast of Prince of Wales Land, and exploring Bellot Strait. When all were happily gathered together once more, how much had each to impart!

By July 16th the *Fox* was nearly ready for sea, and the open water reached within 300 or 400 yards of the vessel. The men were assembled, and thanked for their great exertions. M'Clintock, in addressing them, told them that every part of the search had been fully and efficiently performed. "Our labours," writes he, "have determined the exact position of the extreme northern promontory of the continent of America. I have affixed the name of Murchison, after the distinguished President of the Royal Geographical Society—the strenuous advocate for this 'further search'—and

the able champion of Lady Franklin when she needed all the support which private friendship and public spirit could bestow."

On August 10th the ice was clear, and the *Fox* steamed out of the harbour, M'Clintock having to manage the engines for 24 consecutive hours. It will be remembered that the only engineer had died during their stay. On the 29th they touched at Godhavn, Greenland, where they received much kindness, and, what was more important still, their letters from home, after a lapse of more than two years. On September 20th the *Fox* reached the English Channel, and their troubles were over. All things considered, the smallness of the vessel and equipment, this is the most remarkable and successful Arctic voyage ever made. The Arctic medal was awarded to all of the officers and crew who had not already received it, and the first use made by the men of their earnings was to purchase for Captain M'Clintock a handsome gold chronometer.



FRANKLIN'S SIGNATURE.

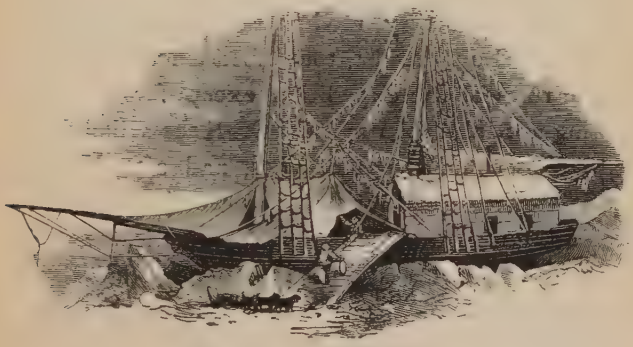
CHAPTER XIV.

Kane's Expedition—The *Advance*—Outfit—Visits to Greenland Settlements—Smith's Sound—In the Ice—A Close Shave—Nippings—The Glacier of Humboldt—Winter Quarters.

THE writer has preferred, in order not to interfere with the narrative relating to the sad fate of Sir John Franklin's party, to omit, up to the present, mention of the many searching expeditions. No one, however, did more with comparatively small chances than Dr. Kane, whose work will, in company with a very few others, keep its place as a standard Arctic authority.

In the month of December, 1852, Dr. Kane received special orders from the Secretary of the United States Navy "to conduct an expedition to the Arctic seas in search of Sir John Franklin." Mr. Grinnell, of New York, placed the brig *Advance*, one of the vessels employed in a previous expedition, at the disposal of the doctor; and Mr. Peabody, of London, the generous American who has by his noble bequests endeared himself to the

heart of every Englishman, contributed largely to the necessary outfit, which was further aided by the Geographical Society of New York, the Smithsonian Institute (Washington), and the American Philosophical Society. The U.S. Government detailed ten officers and men from the Navy, and gave much assistance in various ways: seven other men



KANE'S BRIG.

were shipped, making the total complement of the little expedition eighteen souls.

Dr. Kane proposed to reach the most northern point of Baffin's Bay, thence pressing on toward the Pole as far as boats or sledges could be employed, searching the coast line *en route* for vestiges of the lost party. The *Advance* was a strongly

built brig of one hundred and forty-four tons. The equipment was simple: five boats, including a metallic life-boat, some rough lumber for housing over the vessel in winter, india-rubber and canvas tents, and some sledges built on a model furnished by the Admiralty, and others of Dr. Kane's own devising. The provisions taken were the usual Navy rations—some 2,000 lbs. of pemmican, and a liberal allowance of American dried fruits and vegetables. A very moderate supply of liquors nearly filled up the list, total abstinence being one of the rules of the expedition, except for cases requiring special dispensation. Dr. Kane sailed from New York on May 30th, 1853, and after calling at St. John's, Newfoundland, where the Governor received him with a hearty English welcome, and presented him with a fine team of Newfoundland dogs, reached the harbour of Fiskernaes, South Greenland, on July 1st. At this little settlement he was hospitably entertained by Mr. Lassen, the representative of the Danish Trading Company, and he there engaged an Esquimaux youth as hunter.

While beating out of the fiord of Fiskernaes, Dr. Kane had an opportunity of visiting Lichtenfels, one of the three Moravian missionary settlements. "As we rowed," says he, "into the shadow of its rock-embayed cove, everything was so desolate

and still that we might have fancied ourselves outside the world of life; even the dogs—those querulous, never sleeping sentinels of the rest of the coast—gave no signal of our approach. Presently a sudden turn around a projecting cliff brought into view a quaint old Silesian mansion, bristling with irregularly disposed chimneys, its black overhanging roof studded with dormer windows and crowned with an antique belfry.

"We were met as we landed by a couple of ancient men in sable jackets and close velvet skull-caps, such as Vandyke or Rembrandt himself might have painted, who gave us a quiet but kindly welcome. . . We learned that the house dated back as far as the days of Martin Stach—built, no doubt, with the beams that floated so providentially to the shore, some twenty-five years after the first landing of Egede; and that it had been the home of the Brethren who now greeted us, one for twenty-nine and the other twenty-seven years." Kane goes on to speak of their intelligence and liberal spirit; although "two of their number had died from scurvy the year before, they hesitated at receiving a small supply of potatoes from the ships' stores."

On July 10th he visited another settlement, that of Sukkertoppen, so named from the "Sugar-loaf" peak, 3,000 feet high, which marks the locality.

It is one of the leading depôts for reindeer skins, and here Kane obtained a supply of these furs and sealskin boots. He afterwards coasted to Upernavik, making purchases of dogs at the various native settlements.

Baffin had discovered Smith Sound in 1616, but no European or American had explored it till Kane ventured there. His voyage to it was full of difficulties and perils which might appal the most stout-hearted. Now experiencing terrible storms, now beset by broken ice, now almost frozen in, now his brig keeling over to such an extent that nothing much short of a miracle could save her, he persevered and accomplished single-handed in the end, as we shall see, as much or more than many expeditions which started under much more favourable auspices.

His description of a storm, during which the *Advance* was among the grinding ice masses, is particularly graphic :—

"At seven in the morning we were close on the piling masses. We dropped our heaviest anchor with the desperate hope of winding the brig ; but there was no withstanding the ice torrent that followed us. We had only time to fasten a spar as a buoy to the chain, and let her slip. So went our best bower!

"Down we went upon the gale again, helplessly

scraping along a lee of ice seldom less than thirty feet thick ; one floe, measured by a line as we tried to fasten to it, more than forty. I had seen such ice only once before, and never in such rapid motion. One upturned mass rose above our gunwale, smashing in our bulwarks, and depositing half a ton of ice in a lump upon our decks. Our staunch little brig bore herself through all this wild adventure as if she had a charmed life.

"But a new enemy came in sight a-head. Directly in our way, just beyond the line of floe ice against which we were alternately sliding and thumping, was a group of bergs. We had no power to avoid them ; and the only question was, whether we were to be dashed in pieces against them, or whether they might not offer us some providential nook of refuge from the storm. But as we neared them we perceived that they were at some distance from the floe edge, and separated from it by an interval of open water. Our hopes rose as the gale drove us towards this passage and into it ; and we were ready to exult when, from some unexplained cause —probably an eddy of the wind against the lofty ice-walls—we lost our headway. Almost at the same moment we saw that the bergs were not at rest, that with a momentum of their own they were bearing down upon the other ice, and that it must be our fate to be crushed between the two.

"Just then a broad sconce-piece, or low water-washed berg, came driving up from the southward. The thought flashed upon me of one of our escapes in Melville Bay; and as the sconce moved rapidly alongside us, M'Garry managed to plant an anchor on its slope and hold on to it by a whale-line. It was an anxious moment. Our noble tow-horse, whiter than the pale horse that seemed to be pursuing us, hauled us bravely on; the spray dashing over his windward flanks, and his forehead ploughing up the lesser ice as if in scorn. The bergs encroached upon us as we advanced; our channel narrowed to a width of perhaps forty feet; we braced the yards to clear the impending ice-walls. . . . We passed clear, but it was a close shave, so close that our port quarter-boat would have been crushed if we had not taken it in from the davits, and found ourselves under the lee of a berg, in a comparatively open lead. Never did heart-tried men acknowledge with more gratitude their merciful deliverance from a wretched death.

"The day had already its full share of trials; but there were more to come. A flaw drove us from our shelter, and the gale soon carried us beyond the end of the lead. We were again in the ice, sometimes escaping its onset by warping, sometimes forced to rely on the strength and buoyancy of the brig to stand its pressure, sometimes scudding wildly

through the half-open drift. Our jibboom was snapped off in the cap; we carried away our barricade stanchions, and were forced to leave our little *Eric*, with three brave fellows and their warps, out upon the floes behind us.

"A little pool of open water received us at last. It was just beyond a lofty cape that rose up like a wall, and under an iceberg that anchored itself between us and the gale. And here, close under the frowning shore of Greenland, ten miles nearer the Pole than our holding-ground of the morning, the men have turned in to rest.

"I was afraid to join them; for the gale was unbroken, and the floes kept pressing heavily upon our berg—at one time so heavily as to sway it on its vertical axis toward the shore, and make its pinnacle overhang our vessel. My poor fellows had but a precarious sleep before our little harbour was broken up. They hardly reached the deck, when we were driven astern, our rudder splintered, and the pin-tails torn from their boltings.

"Now began the nippings. The first shock took us on our port-quarter, the brig bearing it well, and, after a moment of the old-fashioned suspense, rising by jerks handsomely. The next was from a veteran floe, tongued and honeycombed, but floating in a single table over twenty feet in thickness. Of course no wood or iron could stand this; but

the shoreward face of our iceberg happened to present an inclined plane, descending deep into the water, and up this the brig was driven, as if some great steam screw-power was forcing her into a dry dock.

"At one time I expected to see her carried bodily up its face and tumbled over on her side. But one of those mysterious relaxations, which I have elsewhere called the pulses of the ice, lowered us quite gradually down again into the rubbish, and we were forced out of the line of pressure toward the shore. Here we succeeded in carrying out a warp, and making fast. We grounded as the tide fell, and would have heeled over to seaward, but for a mass of detached land ice that grounded alongside of us, and, although it stove our bulwarks as we rolled over it, shored us up.

"I could hardly get to my bunk, as I went down into our littered cabin on the Sunday morning after our hard-working vigil of thirty-six hours. Bags of clothing, food, tents, India-rubber blankets, and the hundred little personal matters which every one likes to save in a time of trouble, were scattered around in places where the owners thought they might have them at hand. The pemmican had been on deck, the boats equipped, and everything of real importance ready for a march many hours before.

"During the whole of the scenes I have been trying to describe, I could not help being struck by the composed and manly demeanour of my comrades. The turmoil of ice under a heavy sea often conveys the impression of danger when the reality is absent; but in this fearful passage, the parting of our hawsers, the loss of our anchors, the abrupt crushing of our stoven bulwarks, and the actual deposit of ice upon our decks, would have tried the nerves of the most experienced ice-man. All—officers and men—worked alike. Upon each occasion of collision with the ice which formed our lee coast, efforts were made to carry out lines; and some narrow escapes were incurred, by the zeal of the parties leading them into positions of danger. Mr. Bonsall avoided being crushed by leaping to a floating fragment; and no less than four of our men at one time were carried down by the drift, and could only be recovered by a relief party after the gale had subsided.

"As our brig, borne on by the ice, commenced her ascent of the berg, the suspense was oppressive. The immense blocks piled against her, range upon range, pressing themselves under her keel, and throwing her over upon her side, till, urged by the successive accumulations, she rose slowly, and as if with convulsive efforts, along the sloping wall. Still, there was no relaxation of the impelling force.

Shock after shock, jarring her to her very centre, she continued to mount steadily on her precarious cradle. But for the groaning of her timbers and the heavy sough of the floes, we might have heard a pin drop. And then, as she settled down into her old position, quietly taking her place among the broken rubbish, there was a deep-breathing silence, as though all were waiting for some signal before the clamour of congratulation and comment should burst forth." It was not till the 22nd that this storm abated. Shortly afterwards all hands went on the ice beach, and towed the vessel some distance, harnessing themselves, as Kane says, "like mules on a canal." At this time their latitude was 78^{0} 41′, or farther north than reached by any of their predecessors except Parry. The men while out found the skull of a musk ox, and from it Kane inferred some "land connection between Greenland and America, or an approach sufficiently close to allow these animals to migrate between the two."

On August 26th Kane is forced to admit a want of sympathy with the objects of his voyage on the part of the men. He says truly, "It is unjust for a commander to measure his subordinates in such exigencies by his own standard. The interest which they feel in an undertaking is of a different nature from his own. With him there are always personal motives, apart from official duty, to stimu-

late effort. He receives, if successful, too large a share of the credit, and he justly bears all the odium of failure." He therefore called a council together, and, with one exception, the officers agreed that it would be better to winter in some more southern latitude. After some further consultation, it was resolved to proceed to the northern headland of the bay, as that point was deemed a good station from whence to despatch sledging parties. During the progress thither the brig grounded, and considerable apprehension was felt as to her safety. Once she heeled over, throwing the men out of their berths, and setting the cabin deck on fire by the upsetting of the coal stove. The ice ground and piled round her, but she was eventually got off without damage, the process being subsequently repeated. She grounded five times in three days. Kane, with seven others, pushed on ahead in a whale-boat to examine the situation. The boat was housed in with canvas, and sheathed with tin to prevent the jagged ice from cutting into it. They had been out about twenty-four hours when they came to the end of the open water; they hauled up the boat, and prepared for a sledge journey. They found an extensive ice shelf or table, which clung round the base of the cliffs on which they dragged the sledge, meeting frequent obstructions in the shape of huge angular masses of ice, and numerous water-courses,

through which they had to struggle. They encountered a small glacier, which gave them great trouble to cross, their smooth boots not being adapted for such travel. They found on the fifth day that they had only made an actual distance of forty miles, while they had probably rowed and sledged double that distance, and they determined to push on without the sledge. Their progress was arrested by a large bay, into which a roaring and tumultuous river issued. "This river, the largest probably yet known in North Greenland, was about three-quarters of a mile wide at its mouth. . . . Its course was afterwards pursued to an interior glacier, from the base of which it was found to issue in numerous streams, that united into a single trunk about forty miles above its mouth. By the banks of this stream we encamped, lulled by the unusual music of running waters.

"Here, protected from the frost by the infiltration of the melted snows, and fostered by the reverberation of solar heat from the rocks, we met a flower-growth which, though drearily Arctic in its type, was rich in variety and colouring. Amid festuca and other tufted grasses twinkled the purple lychnis, and the white star of the chickweed; and, not without its pleasing associations, I recognised a solitary hesperis—the Arctic representative of the wall-flowers of home." The river was waded the next

morning, not without difficulty. Kane, with three volunteers, made for a large headland from which he hoped to be able to examine the surrounding country. After sixteen miles of arduous travel he reached it, naming it after Thackeray, the great novelist. Eight miles further, a second headland jutted, shutting from his view all points further north. "I shall never forget," says he, "when, after a hard day's walk, I looked out from an altitude of eleven hundred feet upon an expanse extending beyond the eightieth parallel of latitude. Far off on my left was the western shore of the Sound (Smith's Sound), losing itself in distance toward the north. To my right, a rolling primary country led on to a low dusky wall-like ridge, which I afterward recognised as the Great Glacier of Humboldt; and still beyond this, reaching northward from the north-north-east, was the land which now bears the name of Washington. . . . The great area between was a solid sea of ice. Close along its shore, almost looking down upon it from the crest of our lofty station, we could see the long lines of hummocks dividing the floes like the trenches of a beleaguered city. Farther out a stream of icebergs, increasing in numbers as they receded, showed an almost impenetrable barrier, since I could not doubt that among their recesses the ice was so crushed as to be impassable by the sledge."

The result of Dr. Kane's examination was that the original bay, Rensselaer Harbour, in which he had left the *Advance*, was chosen for their winter quarters. It proved a long resting-place for the little brig, if indeed the same ice is not around her still.

Having housed in the *Advance*, a store-house was erected on Butler's Island, and an observatory erected on a rocky islet a hundred yards or so off. Then a depôt party started to make arrangements for storing provisions, &c., at different points, in order that, when their travels commenced in good earnest, they should have these stations, in case of necessity, to fall back on.

HUMBOLDT'S GLACIER.

CHAPTER XV.

Return of the Exploring Party—A Fearful Story—To the Rescue—The Camp on the Ice—Gratitude—Frozen Sleep—Travel in a Dream—At the Brig again—Sickness and Suffering—Baker's Death.

THE return of an exploring party, sent out by Dr. Kane for preliminary observations, is thus described in the narrative :—

"We were at work cheerfully, sewing away at the skins of some mocassins, by the blaze of our lamps, when, toward midnight, we heard the noise of steps above, and the next minute Sontag, Ohlsen, and Petersen came down into the cabin. Their manner startled me even more than their unexpected appearance on board. They were swollen and haggard, and hardly able to speak.

"Their story was a fearful one. They had left their companions in the ice, risking their own lives to bring us the news : Brooks, Baker, Wilson, and Pierre were all lying frozen and disabled. Where ? They could not tell : somewhere in among the

hummocks to the north and east; it was drifting heavily round them when they parted; Irish Tom had stayed by to feed and care for the others, but the chances were sorely against them. It was in vain to question them further. They had evidently travelled a great distance, for they were sinking with fatigue and hunger, and could hardly be rallied enough to tell us the direction in which they had come.

"My first impulse was to move on the instant with an unencumbered party; a rescue, to be effective or even hopeful, could not be too prompt. What pressed most on my mind was, where the sufferers were to be looked for among the drifts. Ohlsen seemed to have his faculties rather more at command than his associates, and I thought that he might assist us as a guide; but he was sinking with exhaustion, and if he went with us, we must carry him."

There was not a moment to be lost. Hurried preparations were made; the new-comers warmed and fed, while a sledge was loaded with a buffalo cover, a small tent, and a package of pemmican. Ohlsen, well wrapped up, was put on the sledge, and they started, the party consisting of Dr. Kane and nine men. The thermometer at this time stood at minus 46°, or 78° below freezing point. For sixteen hours they travelled steadily, well-

known landmarks and icebergs guiding them, but Ohlsen at last had to confess that he could not direct them further. "Pushing ahead of the party," says Kane, "and clambering over some rugged ice-piles, I came to a long level floe, which I thought might probably have attracted the eyes of weary men in circumstances like our own. It was a light conjecture, but it was enough to turn the scale, for there was no other to balance it. I gave orders to abandon the sledge, and disperse in search of foot-marks. We raised our tent, placed our pemmican in cache, except a small allowance for each man to carry on his person, and poor Ohlsen, now just able to keep his legs, was liberated from his bag. The thermometer had fallen by this time to minus 49°3, and the wind was setting in sharp from the north-west. It was out of the question to halt; it required brisk exercise to keep us from freezing." The men proceeded in skirmishing order, but kept closing up continually in a single group, as though some painful impression of solitary danger had possession of them. Several were seized with trembling fits, and Kane himself fainted twice. At length a new hope arose. The track of a broad sledge-runner was discovered, and followed with religious care brought them "in sight of a small American flag fluttering from a hummock, and lower down a little masonic banner, hanging from

a tent-pole hardly above the drift. It was the camp of our disabled comrades: we reached it after an unbroken march of twenty-one hours.

"The little tent was nearly covered. . . . As I crawled in, and, coming upon the darkness, heard before me the burst of welcome gladness that came from the four poor fellows stretched on their backs, and then for the first time the cheer outside, my weakness and my gratitude together almost overcame me. They had expected me: they were sure I would come!"

There were now fifteen souls, with a tent capable of holding only eight. They therefore took a brief sleep by watches, half the number walking about outside while the others rested. Literally sewing up the sick men in reindeer skins, and placing them on buffalo robes spread on the sledge, the party set out. Although all superfluous articles were left behind, the weight they had to drag over the rough and hummocky ice was eleven hundred pounds. "We made," says the narrator, "by vigorous pulls and lifts, nearly a mile an hour. . . . Almost without premonition, we all became aware of an alarming failure of our energies.

"I was of course familiar with the benumbed and almost lethargic sensation of extreme cold. . . . But I had treated the *sleepy comfort* of freezing as

something like the embellishment of romance. I had evidence now to the contrary.

"Bonsall and Morton, two of our stoutest men, came to me, begging permission to sleep: 'They were not cold; the wind did not enter them now; a little sleep was all they wanted.' Presently Hans was found nearly stiff under a drift; and Thomas, bolt upright, had his eyes closed, and could hardly articulate. At last John Blake threw himself in the snow and refused to rise. They did not complain of feeling cold; but it was in vain that I wrestled, boxed, ran, argued, jeered, or reprimanded, an immediate halt could not be avoided."

The tent was pitched with difficulty, and the sick and stupefied men put under it. Kane then with one man pushed ahead to the half-way tent and cache left behind them the previous day, his object being to thaw some ice and pemmican before the others could come up with them. He says: "I cannot tell how long it took us to make the nine miles, for we were in a strange kind of stupor, and had little apprehension of time. It was probably about four hours. We kept ourselves awake by imposing on each other a continued articulation of words: they must have been incoherent enough. I recall these hours as among the most wretched I have ever gone through: we were neither of us in

our right senses, and retained a very confused recollection of what preceded our arrival at the tent. We both of us, however, remember a bear who walked leisurely before us, and tore up as he went a jumper that Mr. M'Garry had improvidently thrown off the day before. He tore it into shreds and rolled it into a ball, but never offered to interfere with our progress. I remember this, and with it a confused sentiment that our tent and buffalo robes might probably share the same fate." They were in fact drunken and almost delirious with cold, walking as in a dream, and when they reached the tent immediately turned into their reindeer sleeping bags, and for the next three hours were oblivious of everything. They then rose, melted some water, and by the time the party arrived had soup prepared for them. Refreshed, all started on the way to the brig, which they reached after many halts. Kane records trying the experiment of brief naps on the snow, having previously arranged to be awakened at the end of three minutes, and he felt so much benefited that he allowed his men to do the same; he also served out small rations of brandy when their strength failed them. Dr. Hayes immediately took the sick in his charge. Ohlsen suffered some time from blindness, two others underwent amputation of parts of the foot, and two died in spite of all their efforts. The

rescue party had been out seventy-two hours, and had only halted in all eight hours. On April 4th Dr. Kane writes: "Four days have passed, and I am again at my record of failures, sound, but aching at every joint. The rescued men are not out of danger, but their gratitude is very touching. Pray God that they may live!"

The week that followed was one of deep anxiety. Nearly the whole party, rescuers and rescued, relapsed, and were confined to their berths—some frozen, others undergoing amputations, several with dreadful premonitions of tetanus. Some extracts from Dr. Kane's journal will be interesting at this point.

"Early in the morning of the 7th I was awakened by a sound from Baker's throat, one of those the most frightful and ominous that ever startle a physician's ear. The lock-jaw had seized him—that dark visitant whose foreshadowing were on so many of us. His symptoms marched rapidly to their result; he died on the 8th of April. We placed him the next day in his coffin, and, forming a rude but heart-full procession, bore him over the broken ice, and up the steep side of the ice-foot to Butler Island; then, passing along the snow-level to Fern Rock, and climbing the slope of the observatory, we deposited his corpse upon the pedestals which had served to support our transit instrument

and theodolite. We read the Service for the Burial of the Dead, sprinkling over him snow for dust, and repeated the Lord's Prayer; and then, icing up again the opening in the walls we had made to admit the coffin, left him in his narrow house."

CHAPTER XVI.

Interview with the Esquimaux—A Treaty—Hospitality on Board the Brig — Native Astonishment — Impulsive Feeding — Greenland Gratitude.

"WE were watching in the morning at Baker's death-bed, when one of our deck-watch, who had been cutting ice for the melter, came hurrying down into the cabin with the report, 'People hollaing ashore!' I went up, followed by as many as could mount the gangway; and there they were, on all sides of our rocky harbour, dotting the snow-shores, and emerging from the blackness of the cliffs—wild and uncouth, but evidently human beings.

"As we gathered on the deck, they rose upon the more elevated fragments of the land-ice, standing singly and conspicuously, like the figures in a tableau of the opera, and distributing themselves around, almost in a half-circle. They were vociferating, as if to attract our attention, or, perhaps,

only to give vent to their surprise; but I could make nothing out of their cries, except 'Hoah, ha, ha!' and 'Ka, kăăh! ka, kăăh!' repeated over and over again.

"There was light enough for me to see that they brandished no weapons, and were only tossing their heads and arms about in violent gesticulations. A more unexcited inspection showed us, too, that their numbers were not as great nor their size as Patagonian as some of us had been disposed to fancy at first. In a word, I was satisfied that they were natives of the country; and, calling Petersen from his bunk to be my interpreter, I proceeded, unarmed and waving my open hands, toward a stout figure who made himself conspicuous, and seemed to have a greater number near him than the rest. He evidently understood the movement, for he at once, like a brave fellow, leaped down upon the floe, and advanced to meet me fully half-way.

"He was nearly a head taller than myself, extremely powerful and well-built, with swarthy complexion and piercing black eyes. His dress was a hooded capôte, or jumper, of mixed blue and white fox-pelts, arranged with something of fancy, and booted trousers of white-bear skin, which at the end of the foot were made to terminate with the claws of the animal.

"I soon came to an understanding with this gallant diplomatist.

"Almost as soon as we commenced our parley, his companions, probably receiving signals from him, flocked in and surrounded us; but we had no difficulty in making them know positively that they must remain where they were, while Metek went with me on board the ship. This gave me the advantage of negotiating with an important hostage.

"Although this was the first time he had ever seen a white man, he went with me fearlessly, his companions staying behind on the ice. Hickey took them out what he esteemed our greatest delicacies—slices of good wheat bread and corned pork, with exorbitant lumps of white sugar, but they refused to touch them. They had evidently no apprehension of open violence from us. I found afterward that several among them were, singly, a match for the white bear and the walrus, and that they thought us a very pale-faced crew.

"Being satisfied with my interview in the cabin, I sent out word that the rest might be admitted to the ship; and although they, of course, could not know how their chief had been dealt with, some nine or ten of them followed with boisterous readiness upon the bidding. Others in the meantime, as if disposed to give us their company for the full time of a visit, brought up from behind the

land-ice as many as fifty-six fine dogs, with their sledges, and secured them within two hundred feet of the brig, driving their lances into the ice, and picketing the dogs to them by the seal-skin traces. The animals understood the operation perfectly, and lay down as soon as it commenced. The sledges were made up of small fragments of porous bone, admirably knit together by thongs of hide; the runners, which glistened like burnished steel, were of highly-polished ivory, obtained from the tusks of the walrus.

"When they were first allowed to come on board, they were very rude and difficult to manage. They spoke three or four at a time, to each other and to us, laughing heartily at our ignorance in not understanding them, and then talking away as before. They were incessantly in motion, going everywhere, trying doors, and squeezing themselves through dark passages, round casks and boxes, and out into the light again, anxious to touch and handle everything they saw, and asking for, or else endeavouring to steal, everything they touched. It was the more difficult to restrain them, as I did not wish them to suppose that we were at all intimidated. But there were some signs of our disabled condition which it was important they should not see; it was especially necessary to keep them out of the forecastle, where the

dead body of poor Baker was lying; and as it was in vain to reason or persuade, we had at last to employ the 'gentle laying on of hands,' which, I believe, the laws of all countries tolerate, to keep them in order.

"Our whole force was mustered, and kept constantly on the alert; but though there may have been something of discourtesy in the occasional shoulderings and hustlings that enforced the police of the ship, things went on good-humouredly. Our guests continued running in and out about the vessel, bringing in provisions, and carrying them out again to their dogs on the ice, in fact, stealing all the time, until the afternoon, when, like tired children, they threw themselves down to sleep. I ordered them to be made comfortable in the hold; and Morton spread a large buffalo-robe for them, not far from a coal-fire in the galley-stove.

"They were lost in barbarous amaze at the new fuel—too hard for blubber, too soft for firestone; but they were content to believe it might cook as well as seal's fat. They borrowed from us an iron pot and some melted water, and parboiled a couple of pieces of walrus-meat; but the real *pièce de resistance*, some five pounds a head, they preferred to eat raw. Yet there was something of the gourmet in their mode of assorting their mouthfuls of beef and blubber. Slices of each, or rather strips, passed

between the lips, either together or in strict alternation, and with a regularity of sequence that kept the molars well to their work.

"They did not eat all at once, but each man when and as often as the impulse prompted. Each slept after eating, his raw chunk lying beside him on the buffalo-skin; and as he woke the first act was to eat, and the next to sleep again. They did not lie down, but slumbered away in a sitting posture, with the head declined upon the breast, some of them snoring famously.

"In the morning they were anxious to go; but I had given orders to detain them for a parting interview with myself. It resulted in a treaty, brief in its terms, that it might certainly be remembered, and mutually beneficial, that it might possibly be kept. I tried to make them understand what a powerful Prospero they had had for a host, and how beneficent he would prove himself so long as they did his bidding. And, as an earnest of my favour, I bought all the walrus-meat they had to spare and four of their dogs, enriching them in return with needles and beads, and a treasure of old cask staves.

"In the fullness of their gratitude they pledged themselves emphatically to return in a few days with more meat, and to allow me to use their dogs and sledges for my excursions to the north. I

then gave them leave to go. They yoked their dogs in less than two minutes, got on their sledges, cracked their two-fathom-and-a-half long seal-skin whips, and were off down the ice to the south-west at the rate of seven knots an hour."

CHAPTER XVII.

A Spring Journey—Fearful Effects of the Scurvy—Bears at the Pemmican—Kane's Prostration—Five Brave Men—Return to the Brig—Schubert's Death—Spring again.

AND now Kane prepared for a very original and important journey. His plan was to follow the ice-belt to the Great Glacier of Humboldt, there loading up with pemmican from a cache or depôt previously made. From that point he hoped to be able to "stretch along the face of the glacier, inclining to the west of north, and make an attempt to cross the ice to the American side." From thence he hoped to pass to the westward. His outfit was simple, consisting principally of pemmican, bread, tea, canvas tent, and two sleeping bags carried on a sledge. His "kitchen" was a soup kettle for melting snow and making tea, arranged so as to boil with either lard or spirits. Several scientific instruments completed the list. One of his men—M'Garry—went on before with supplies, the doctor and others of the crew following on April 27th, and

soon overtaking him. The journey was an arduous one; in crossing Marshall Bay the snow was found accumulated in drifts, through which their efforts were unavailing to force the sledges. They were compelled to unload them, carrying the cargo on their backs and beating a path for the dogs to follow. "In this way," says Kane, "we plodded on to the opposite headland, Cape William Wood, where the waters of Mary Minturn River, which had delayed the freezing of the ice, gave us a long reach of level travel. We then made a better rate, and our days' marches were such as to carry us by the 4th of May nearly to the glacier.

"This progress, however, was dearly earned. As early as the 3rd of May the winter's scurvy re-appeared painfully among our party. As we struggled through the snow along the Greenland coast we sank up to our middles, and the dogs floundering about were so buried as to preclude any attempts at hauling. This excessive snow deposit seemed to be due to the precipitation of cold condensing wind suddenly wafted from the neighbouring glacier, for at Rensselaer Harbour we had only four inches of general snow depth. It obliged us to unload our sledges again, and carry their cargo, a labour which resulted in dropsical swellings with painful prostration. Here three of the party were taken with snow-blindness, and

George Stephenson had to be condemned as unfit for travel altogether, on account of chest symptoms accompanying his scorbutic troubles. On the 4th Thomas Hickey also gave in, although not quite disabled for labour at the track lines.

"Perhaps we would still have got on, but, to crown all, we found that the bears had effected an entrance into our pemmican casks, and destroyed our chances of reinforcing our provisions at the several caches. This great calamity was certainly inevitable; for it is simple justice to the officers under whose charge the provision-depôts were constructed to say that no means in their power could have prevented the result. The pemmican was covered with blocks of stone which it had required the labour of three men to adjust, but the extraordinary strength of the bear had enabled him to force aside the heaviest rocks, and his pawing had broken the iron casks which held our pemmican literally into chips. Our alcohol cask, which it had cost me a separate and special journey in the late fall to deposit, was so completely destroyed that we could not find a stave of it.

"Off Cape James Kent, about eight miles from 'Sunny Gorge,' while taking an observation for latitude, I was myself seized with a sudden pain and fainted. My limbs became rigid, and certain obscure tetanoid symptoms of our late winter's

enemy disclosed themselves. In this condition I was unable to make more than nine miles a-day. I was strapped upon the sledge, and the march continued as usual, but my powers diminished so rapidly that I could not resist even the otherwise comfortable temperature of 5° below zero. My left foot becoming frozen up to the metatarsal joint caused a vexatious delay, and the same night it became evident that the immovability of my limbs was due to dropsical effusion.

"On the 5th, becoming delirious, and fainting every time that I was taken from the tent to the sledge, I succumbed entirely.

"My comrades would kindly persuade me that, even had I continued sound, we could not have proceeded on our journey. The snows were very heavy and increasing as we went, some of the drifts perfectly impassable, and the level floes often four feet deep in yielding snow. The scurvy had already broken out among the men, with symptoms like my own; and Morton, our strongest man, was beginning to give way. It is the reverse of comfort to me that they shared my weakness. All that I should remember with pleasurable feeling is, that to five brave men—Morton, Riley, Hickey, Stephenson, and Hans, themselves scarcely able to travel—I owe my preservation. They carried me back by forced marches, after caching our stores and

india-rubber boat near Dallas Bay, in lat. 79° 5′, long. 66°.

"I was taken into the brig on the 14th. Since then, fluctuating between life and death, I have by the blessing of God reached the present date, and see feebly in prospect my recovery. Dr. Hayes regards my attack as one of scurvy, complicated by typhoid fever. George Stephenson is similarly affected. Our worst symptoms are dropsical effusions and night sweats.

. . . . . .

"Poor Schubert is gone. Our gallant, merry-hearted companion left us some ten days ago, for, I trust, a more genial world. It is sad, in this dreary little homestead of ours, to miss his contented face and the joyous troll of his ballads."

With returning spring, fresh seal-meat, ptarmigan, reindeer, and rabbits, and the careful attentions of Dr. Hayes, the invalids gradually revived and set about their duties, although still very debilitated.

Many sledge journeys were made by Kane and his men during the winter, the most important of which was that undertaken by Mr. Morton, a man of considerable courage and tried fidelity. "After travelling," says Dr. Kane, "due north over a solid area choked with bergs and frozen fields, he was startled by the growing weakness of the ice; its

surface became rotten, and the snow wet and pulpy. His dogs, seized with terror, refused to advance. Then for the first time the fact broke upon him that a long dark band, seen to the north beyond a protruding cape—Cape Andrew Jackson—was water. With danger and difficulty he retraced his steps, and reaching sound ice made good his landing on a new coast." He had seen the open water—or some of it—concerning which so much has been said, and the existence of which as an open Polar Sea to-day is one of the problems yet to be solved.

"As Morton, leaving Hans and his dogs, passed between Sir John Franklin Island and the narrow beach line, the coast became more wall-like, and dark masses of porphyritic rock abutted into the sea. With growing difficulty he managed to climb from rock to rock, in hopes of doubling the promontory and sighting the coasts beyond, but the water kept encroaching more and more on his track.

"It must have been an imposing sight, as he stood at this termination of his journey, looking out upon the great waste of waters before him. Not a 'speck of ice,' to use his own words, could be seen. There, from a height of four hundred and eighty feet, which commanded a horizon of almost forty miles, his ears were gladdened with the novel

music of dashing waves, and a surf, breaking in among the rocks at his feet, stayed his further progress. . . . The high ridges to the north-west dwindled off into low blue knobs, which blended finally with the air. Morton called the cape which baffled his labours after his commander, but I have given it the more enduring name of 'Cape Constitution.' I do not believe there was a man among us who did not long for the means of embarking upon its bright and lonely waters. But he who may be content to follow our story for the next few months will feel, as we did, that a controlling necessity made the desire a fruitless one.

"An open sea near the Pole, or even an open polar basin, has been a topic for theory for a long time, and has been shadowed forth to some extent by actual or supposed discoveries. As far back as the days of Barentz, in 1596, without referring to the earlier and more uncertain chronicles, water was seen to the eastward of the northernmost Cape of Novaia Zemlia, and until its limited extent was defined by direct observation, it was assumed to be the sea itself. The Dutch fishermen above and around Spitzbergen pushed their adventurous cruises through the ice into open spaces, varying in size and form with the season and the winds; and Dr. Scoresby, a venerated authority, alludes to such

vacancies in the floe as pointing in argument to a freedom of movement from the north, inducing open water in the neighbourhood of the Pole. Baron Wrangell, when forty miles from the coast of Arctic Asia, saw, as he thought, a 'vast, illimitable ocean,' forgetting for the moment how narrow are the limits of human vision on a sphere. So, still more recently, Captain Penny proclaimed a sea in Wellington Sound, on the very spot where Sir Edward Belcher has since left his frozen ships; and my predecessor, Captain Inglefield, from the mast-head of his little vessel, announced an 'open polar basin' but fifteen miles off from the ice which arrested our progress the next year.

"All these illusory discoveries were no doubt chronicled with perfect integrity; and it may seem to others, as since I have left the field it sometimes does to myself, that my own, though on a larger scale, may one day pass within the same category. Unlike the others, however, that which I have ventured to call an open sea has been travelled for many miles along its coast, and was viewed from an elevation of four hundred and eighty feet, still without a limit, moved by a heavy swell, free of ice, and dashing in surf against a rock-bound shore.

"It is impossible, in reviewing the facts which connect themselves with this discovery—the melted

snow upon the rocks, the crowds of marine birds, the limited but still advancing vegetable life, the rise of the thermometer in the water—not to be struck with their bearing on the question of a milder climate near the Pole."

AURORA POLARIS.

Face page 181.

CHAPTER XVIII.

Still beset in the Ice—A Council called—Eight Men stand by the Brig—The Deserters—Return to the Vessel—Their Sufferings—The whole Party broken down—The Dismantled Brig abandoned—Last Day on Board.

FIFTEEN months had elapsed since Kane left the port of New York, and his little brig was still hopelessly beset in the ice. His men, as he himself described, were "scurvy riddled" and broken down; the provisions were getting low, and he therefore called a council of both officers and crew. On August 26th, writes Kane:—

"At noon to-day I had all hands called, and explained to them frankly the considerations which have determined me to remain where we are. I endeavoured to show them that an escape to open water could not succeed, and that the effort must be exceedingly hazardous; I alluded to our duties to the ship; in a word, I advised them strenuously to forego the project. I then told them that I should freely give my permission to such as were desirous of

making the attempt, but that I should require them to place themselves under the command of officers selected by them before setting out, and to renounce in writing all claims upon myself and the rest who were resolved to stay by the vessel. Having done this, I directed the roll to be called, and each man to answer for himself.

"In the result, eight out of the seventeen survivors of my party resolved to stand by the brig. It is just that I should record their names. They were, Henry Brooks, James M'Garry, J. W. Wilson, Henry Goodfellow, William Morton, Christian Ohlsen, Thomas Hickey, Hans Christian.

"I divided to the others their portion of our resources justly, and even liberally; and they left us on Monday, the 28th, with every appliance our narrow circumstances could furnish to speed and guard them. One of them, George Riley, returned a few days afterwards; but weary months went by before we saw the rest again."

Their return is thus described:—

"*December* 12, *Tuesday*.—Brooks awoke me at three this morning, with the cry of 'Esquimaux again!' I dressed hastily, and, groping my way over the pile of boxes that leads up from the hold into the darkness above, made out a group of human figures, masked by the hooded jumpers of the natives. They stopped at the gangway, and, as

I was about to challenge, one of them sprang forward and grasped my hand. It was Dr. Hayes. A few words, dictated by suffering, certainly not by any anxiety as to his reception, and at his bidding the whole party came upon deck! Poor fellows! I could only grasp their hands, and give them a brother's welcome.

"The thermometer was at minus 50°; they were covered with rime and snow, and were fainting with hunger. It was necessary to use caution in taking them below; for, after an exposure of such fearful intensity and duration as they had gone through, the warmth of the cabin would have prostrated them completely. They had journeyed three hundred and fifty miles; and their last run from the bay near Etah, some seventy miles in a right line, was through the hummocks at this appalling temperature.

"One by one they all came in and were housed. Poor fellows! as they threw open their Esquimaux garments by the stove, how they relished the scanty luxuries which we had to offer them! The coffee and the meat biscuit soup, and the molasses and the wheat bread, even the salt pork, which our scurvy forbade the rest of us to touch—how they relished it all! For more than two months they had lived on frozen seal and walrus meat.

"They are almost all of them in danger of collapse,

but I have no apprehension of life unless from tetanus. Stephenson is prostrate with pericarditis. I resigned my own bunk to Dr. Hayes, who is much prostrated; he will probably lose two of his toes, perhaps a third. The rest have no special injury.

. . . . . .

"*December* 13, *Wednesday.*—The Esquimaux who accompanied the returning party are nearly all of them well-known friends. They were engaged from different settlements, but, as they neared the brig, volunteers added themselves to the escort, till they numbered six drivers, and as many as forty-two dogs. Whatever may have been their motive, their conduct to our poor friends was certainly full of humanity. They drove at flying speed, every hut gave its welcome as they halted; the women were ready, without invitation, to dry and chafe their worn-out guests."

Nearly two years had elapsed from the commencement of the expedition, when we find Kane writing in the following doleful strain:—

"My journal for the beginning of March is little else than a chronicle of sufferings. Our little party was quite broken down. Every man on board was tainted with scurvy, and it was not common to find more than three who could assist in caring for the rest. The greater number were in their bunks, absolutely unable to stir.

"The circumstances were well fitted to bring out the character of individuals. Some were intensely grateful for every little act of kindness from their more fortunate messmates; some querulous; others desponding; others, again, wanted only strength to become mutinous. Brooks, my first officer, as stalwart a man-o'-war's-man as ever faced an enemy, burst into tears when he first saw himself in the glass. On Sunday, the 4th, our last remnant of fresh meat had been doled out. Our invalids began to sink rapidly. The region about our harbour ceased to furnish its scanty contingent of game. One of our huntsmen, Petersen, never very reliable in anything, declared himself unfit for further duty. Hans was unsuccessful; he made several wide circuits, and saw deer twice, but once they were beyond range, and the next time his rifle missed fire.

"I tried the hunt for a long morning myself without meeting a single thing of life, and was convinced, by the appearance of things on my return to the brig, that I should peril the morale, and with it the only hope, of my command by repeating the experiment.

"I laboured, of course, with all the ingenuity of a well-taxed mind to keep up the spirits of my comrades. I cooked for them all imaginable compounds of our unvaried diet-list, and brewed up flax-

seed and lime-juice, and quinine and willow-stems, into an abomination which was dignified as beer, and which some were persuaded for the time to believe such. But it was becoming more and more certain every hour, that unless we could renew our supplies of fresh meat the days of the party were numbered."

And now came a time when the little brig, which had been dismantled almost to the water's edge, had to be abandoned. They had but a month's provisions left, and knew not whether they could reach the settlements at all. A council was called, and all agreed to try the southern ice on sledges, taking their boats with them. The last day on board is described by Dr. Kane in the following words:—

"We then went upon deck. The flags were hoisted and hauled down again, and our party walked once or twice around the brig, looking at her timbers, and exchanging comments upon the scars, which reminded them of every stage of her dismantling. Our figure-head—the fair Augusta, the little blue girl with pink cheeks, who had lost her breast by an iceberg and her nose by a nip off Bedevilled Reach—was taken from our bows and placed aboard the *Hope*. 'She is at any rate wood,' said the men, when I hesitated about giving them the additional burden, 'and if we cannot carry her far we can burn her.'"

CHAPTER XIX.

Death of Ohlsen—A Parallel with Barentsz—Terrific Gale—Grinding, Piling Ice—Safe on the Ice-cliff—Start again—Killing a Seal—Ravenous Appetites—Safe Return to the Settlements.

THEIR journey was one of peril and adventure, and Ohlsen, one of the most faithful of Kane's companions, died by the way. The doctor writes very sadly at this juncture:—

"As we walked back to our camp upon the ice, the death of Ohlsen brought to my mind the strange parallel of our story with that of old William Barentsz, a parallel which might verify that sad truth of history that human adventure repeats itself.

"Two hundred and fifty-nine years ago William Barentsz, Chief Pilot of the States-General of Holland—the United States of that day—had wintered on the coast of Novaia Zemlia, exploring the northernmost region of the Old Continent, as we had that of the New. His men, seventeen in number, broke down during the trials of the winter,

and three died, just as of our eighteen three had gone. He abandoned his vessel as we had abandoned ours, took to his boats, and escaped along the Lapland coast to lands of Norwegian civilisation. We had embarked with sledge and boat to attempt the same thing. We had the longer journey and the more difficult before us. He lost, as we had done, a cherished comrade by the wayside; and as I thought of this closing resemblance in our fortunes also, my mind left but one part of the parallel incomplete—*Barentsz himself perished.*"

A terrible gale, in which the boats were nearly swamped, is described in the following graphic language:—

"At first our own floe also was driven before the wind; but in a little while it encountered the stationary ice at the foot of the very rock itself. On the instant the wildest imaginable ruin rose around us. The men sprang mechanically each one to his station, bearing back the boats and stores; but I gave up for the moment all hope of our escape. It was not a nip, such as is familiar to Arctic navigators; but the whole platform where we stood, and for hundreds of yards on every side of us, crumbled and crushed and piled and tossed itself madly under the pressure. I do not believe that of our little body of men, all of them disciplined

in trials, able to measure danger while combating it, I do not believe there is one who this day can explain how or why—hardly when, in fact—we found ourselves afloat. We only know that, in the midst of a clamour utterly indescribable, through which the braying of a thousand trumpets could no more have been heard than the voice of a man, we were shaken and raised, and whirled and let down again in a swelling waste of broken hummocks, and, as the men grasped their boat-hooks in the stillness that followed, the boats eddied away in a tumultuous skreed of ice and snow and water.

"We were borne along in this manner as long as the unbroken remnant of the inshore floe continued revolving, utterly powerless, and catching a glimpse every now and then of the brazen headland that looked down on us through the snowy sky. At last the floe brought up against the rocks, the looser fragments that hung round it began to separate, and we were able by oars and boat-hooks to force our battered little flotilla clear of them. To our joyful surprise we soon found ourselves in a stretch of the land-water wide enough to give us rowing room, and with the assured promise of land close ahead.

"As we neared it we saw the same forbidding wall of belt-ice as at Sutherland and Hakluyt. We pulled along its margin, seeking in vain either

an opening of access or a nook of shelter. The gale rose, and the ice began to drive again; but there was nothing to be done but get a grapnel out to the belt and hold on for the rising tide. The *Hope* stove her bottom and lost part of her weather boarding, and all the boats were badly chafed. It was an awful storm; and it was not without constant exertion that we kept afloat, baling out the scud that broke over us, and warding off the ice with boat-hooks.

"At three o'clock the tide was high enough for us to scale the ice-cliff. One by one we pulled up the boats upon a narrow shelf, the whole sixteen of us uniting at each pull. We were too much worn down to unload; but a deep and narrow gorge opened in the cliffs almost at the spot we clambered up; and, as we pushed the boats into it on an even keel, the rocks seemed to close above our head, until an abrupt turn in the course of the ravine placed a protecting cliff between us and the gale. We were completely encaved.

"Just as we had brought in the last boat, the *Red Eric*, and were shoring her up with blocks of ice, a long unused, but familiar and unmistakable sound startled and gladdened every ear, and a flock of eiders, flecking the sky for a moment, passed swiftly in front of us. We knew that we must be at their breeding-grounds; and as we turned in,

wet and hungry, to our long-coveted sleep, it was only to dream of eggs and abundance.

"We remained almost three days in our crystal retreat, gathering eggs at the rate of twelve hundred a-day. Outside the storm raged without intermission, and our egg-hunters found it difficult to keep their feet; but a merrier set of gourmands than were gathered within never surfeited in genial diet.

. . . . .

"It was the 18th of July before the aspects of the ice about us gave me the hope of progress. We had prepared ourselves for the new encounter with the sea and its trials by laying in a store of lumme, two hundred and fifty of which had been duly skinned, spread open, and dried on the rocks, as the *entremets* of our bread-dust and tallow.

"My journal tells of a disaster in its record of our setting out. In launching the *Hope* from the frail and perishing ice-wharf on which we found our first refuge from the gale, she was precipitated into the sludge below, carrying away rail and bulwark, losing overboard our best shot gun, Bonsall's favourite, and, worst of all, that universal favourite, our kettle—soup-kettle, paste-kettle, tea-kettle, water-kettle, in one. I may mention before I pass that the kettle found its substitute and successor in the remains of a tin can which a good aunt of mine

had filled with ginger-nuts two years before, and which had long survived the condiments which once gave it dignity. 'Such are the uses of adversity.'

. . . . .

"Things grew worse and worse with us; the old difficulty of breathing came back again, and our feet swelled to such an extent that we were obliged to cut open our canvas boots. But the symptom which gave me most uneasiness was our inability to sleep. A form of low fever which hung by us when at work had been kept down by the thoroughness of our daily rest. All my hopes of escape were in the refreshing influences of the halt.

"It must be remembered that we were now in the open bay, in the full line of the great ice-drift to the Atlantic, and in boats so frail and unseaworthy as to require constant baling to keep them afloat.

"It was at this crisis of our fortunes that we saw a large seal floating, as is the custom of these animals, on a small patch of ice, and seemingly asleep. It was an ussuk, and so large that at first I mistook it for a walrus. Signal was made for the *Hope* to follow astern, and, trembling with anxiety, we prepared to crawl down upon him.

"Petersen, with the large English rifle, was stationed in the bow, and stockings were drawn over the oars as mufflers. As we neared the animal

our excitement became so intense that the men could hardly keep stroke. I had a set of signals for such occasions which spared us the noise of the voice ; and when about three hundred yards off the oars were taken in, and we moved on in deep silence, with a single scull astern.

"He was not asleep, for he reared his head when we were almost within rifle-shot ; and to this day I can remember the hard, care-worn, almost despairing expression of the men's thin faces as they saw him move. Their lives depended on his capture.

"I depressed my hand nervously, as a signal for Petersen to fire. M'Garry hung upon his oar, and the boat, slowly but noiselessly sagging ahead, seemed to me within certain range. Looking at Petersen, I saw that the poor fellow was paralysed by his anxiety, trying vainly to obtain a rest for his gun against the cutwater of the boat. The seal rose on his fore-flippers, gazed at us for a moment with frightened curiosity, and coiled himself for a plunge. At that instant, simultaneously with the crack of our rifle, he relaxed his long length on the ice, and, at the very brink of the water, his head fell helpless to one side.

"I would have ordered another shot, but no discipline could have controlled the men. With a wild yell, each vociferating according to his own impulse, they urged both boats upon the floes. A

crowd of hands seized the seal and bore him up to safer ice. The men seemed half crazy. I had not realised how much we were reduced by absolute famine. They ran over the floe, crying and laughing and brandishing their knives. It was not five minutes before every man was sucking his bloody fingers or mouthing long strips of raw blubber.

"Not an ounce of this seal was lost. The intestines found their way into the soup-kettles without any observance of the preliminary home processes. The cartilaginous parts of the fore-flippers were cut off in the *mêlée*, and passed round to be chewed upon. . . . That night, on the large halting-floe, to which, in contempt of the dangers of drifting, we happy men had hauled our boats, two entire planks of the *Red Eric* were devoted to a grand cooking fire, and we enjoyed a rare and savage feast."

This was their last experience of semi-starvation. After eighty-four days of hard travel they reached the Danish settlement at Upernavik, from which place they were taken on a whaler to Godhavn. An American man-of-war, which had been sent to the rescue, arrived soon after, and a few weeks afterwards Kane was being fêted and honoured in his native country. Later, in various ways, he received the fullest recognition in England.

Dr. Kane's short life had been a most adven-

turous one. Born on February 3rd, 1820, at a very early age we find him a U. S. assistant surgeon, at which time he visited China, India, and Ceylon. While on one of the African stations, he took a "coast fever," which debilitated him for life. During the Mexican war with the United States, he was sent with an *oral* despatch to the army head-quarters, several previous messengers having failed to reach it. On the voyage from New Orleans to Vera Cruz he was shipwrecked. He eventually succeeded in passing the defiles of the enemy, and reached the columns of his own army. He was wounded, and afterwards stricken down with typhus fever during his stay in Mexico. His sixteen-month expedition to the Arctic with Lieutenant De Haven on the "First Grinnell Expedition," nine months of which was spent ice-locked and adrift in a frozen sea, first gave him a taste for that northern exploration he afterwards so successfully carried out. Alas! his slight frame could not stand so many drafts on its endurance, and he died at Havana on February 16th, 1857, at the age of thirty-seven years. In the long list of Arctic heroes, who more truly worthy than he?

CHAPTER XX.

Hayes' Attempt to reach Upernavik—Dangers of the Route—Six Miles in Three Days—Severe Storms—A Hut Constructed—Visits of the Esquimaux—Treacherous intents of the Natives—A desperate *Ruse*—A Narcotic Stew—Flight and Pursuit—The Brig reached at last.

IN order not to interfere with the narrative of Dr. Kane's adventures, the attempted escape of the party with Dr. Hayes—in as far as their experiences are concerned—has been omitted till now, their departure and return to the brig having been alone recorded.

The hope at starting was that they might reach Upernavik, the nearest Danish settlement in Greenland, a distance of about one thousand miles. Had they accomplished this they might have been able to send succour to the party remaining with Dr. Kane. They parted from the brig with a couple of boats and sledges, and such supplies as could be spared. "Before leaving," says Hayes' narrative,* "Dr. Kane

* "An Arctic Boat Journey in the Autumn of 1854." By Dr. I. I. Hayes.

called us to the cabin. In some nook or corner of the after-part locker the careful steward had stowed a couple of bottles of champagne, the existence of which was only known to the commander and himself. One of these was drawn from its hiding-place, and in broken-handled tea-cups we exchanged mutual pledges."

Their expectation was to find open water ten miles from the brig. In this they were disappointed, and they were compelled to convey their boats and provisions along the edge of the ice-foot, their progress being so slow that in one place it occupied them three days to make six miles.

When they succeeded in reaching an open space of water free from ice for three or four miles, their strength was not equal to pulling the oars, and there was no wind. Next morning a breeze arose, and they sailed gaily along until the icebergs and floes closed upon them, when they tied up to a level mass of ice. Next day the ice opened, and they sailed successfully almost to Life-boat Bay, where Kane had, in August, 1853, left a metallic life-boat, when the moving, grinding ice again shut them in. The life-boat was, however, found, and under it some supplies purposely left there by Dr. Kane. After leaving the land "the route lay over a closely-jammed pack of pieces of ice of almost every shape and size, some of them being a foot out of the water,

others ten feet: one moment they were hauling the boat up a precipice, the next letting her down over another, and all this under a feeling of insecurity, since the ice they were on might suddenly drift out to seaward. First they carried forward the boat about a hundred yards, then piece by piece the cargo and equipment, until after six hours' labour they reached the open water. But the wind was blowing a regular gale, and they had to work their way between the driving masses of the pack with the danger of being crushed. They were wet to the skin with the dashing spray, and with the thermometer at 22^0 the water was freezing on their clothes. After much search they found a small cove, or rather cleft in the granite cliffs of Lyttelton Island, into which they succeeded in running the boat; but they could find no protection against the wind, which swept in from the sea, and came furiously down through the rocky gorges. They clambered about in the darkness, along the rocky ledge, hunting for a lee, but no sooner had they got into some kind of shelter than the wind shifted: indeed, it seemed to blow from every quarter, and to roll down from the rocks like an avalanche." Some of the party extemporised a tent from their sail; Hayes and another, unable to bear the cold, exercised all night by walking on the ice.

After fearful exposure and great damage to the

boats, one day they reached a spot covered with greensward, a perfect oasis, compared with the surrounding desolation. They found some wild vegetables, sorrel, and cochlearia, and shot a fox, from which a supper was prepared. They remained five days ice-bound, when the floe opened, and they again sailed, hoping to reach Cape Parry. Mists and snow almost hid everything but the dark waters around them, and they had to camp on a lump of ice not over twelve feet square. Their tent was tightly closed, but do all they would, even smoking their pipes furiously, they could not raise the temperature inside over 30°. "The men told stories to each other to interrupt the monotonous chattering of their teeth." Their ice-raft broke up during the night, and nearly spilled them all in the water. When the welcome morning came, they pulled through the broken ice, and reached a low sandy beach, just in time to save themselves from the effects of a storm which broke over them with unusual fury, "the tent was nearly blown over, and had to be secured by means of heavier stones. The wind had increased to a gale, and as it went moaning about the plain, it carried up into the air great white clouds and pelted the tent with sleet and hail. The boats were nearly covered by a great drift, and the cargo was almost buried out of sight." Dr. Hayes writes: "It was not due to ourselves that we were not at

sea in that fearful storm; we knew not even where we were: we came by no will of our own; there was a Providence in it."

After a series of experiences like those just recorded, and at a time when their provisions were reduced to two weeks' rations, their slow progress, and the unmistakable signs of approaching winter, obliged them to think of some place of shelter. A house of boulders was constructed, lighted with one small window, a piece of an old shirt greased with blubber serving for glass, one of the boat's oars and mast doing duty for rafters, and the sail for roof. The crannies of the stones were caulked with moss and sand.

Their provisions, in October, were running so short that the men had to be put on half allowance, and being unsuccessful in the hunt for walrus and seal, they attempted to appease the gnawings of hunger by collecting *tripe de roche*, the rock lichen, which has often been used by half-starved Arctic explorers. It, however, produced diarrhœa, and consequently weakened their already enfeebled frames. Storm after storm kept them weather-bound, and their house was nearly buried in the drifting snow. Doctor Hayes writes mournfully at this time:— "Although accustomed to hardship, yet we could not feel cheerful, nor wholly forget that this cold, fireless, damp, vault-like den promised to be for a

little, very little while our dwelling-place, and then our grave. . . . . Yet courage did not forsake us, nor was there one word of lamentation. Placing trust where the heart bade us, we did not lose hope; and I feel sure that all of us retired to rest thinking of the future, its duties and its trials, prayerfully."

While in the hut they were visited by Esquimaux. The first party which arrived had been out on an unsuccessful bear-hunt, and were accompanied by thirteen hungry dogs. They had some little frozen blubber with them, which they shared with Dr. Hayes' party. Next morning, while the doctor was outside the house, the famished wolf-like dogs gathered round him, and would have torn him to pieces but for his presence of mind. One had already sprung upon him, and had been bodily thrown to a distance when they again encircled him. Lying in the snow, a dozen feet off, his eye caught the handle of a whip. He bounded for it, and in a few moments the curs were scattering in all directions under a fire of lashes. The Esquimaux brought them from time to time some small supplies, but utterly declined to help them on the way to Upernavik. They scoffed at the idea of crossing the Melville Bay ice, and declined to sell their dogs at any price whatever.

Hayes and the party generally seem not to have been so fortunate in their intercourse with the

natives as most previous explorers had been, and more than once their lives were in danger. Petersen and Godfrey left the hut on November 3rd, accompanied by some Esquimaux, with the intention of visiting the brig. At Netlek, a native settlement, while the explorers were in pretended sleep, they overheard the Esquimaux concocting a murderous scheme, and they immediately started off with their dogs and sledge. The natives sullenly watched their departure, and, when they had travelled about a couple of miles, followed them with savage cries. The rifles were pointed at them, but fortunately not used, as the pursuers suddenly changed their minds, and made for another direction. On reaching the hut, a barricade of snow was erected ; its half-starved tenants determined not to die without resistance.

After many abortive efforts at escape, Petersen and Bonsall set off with a sledge to try and reach Dr. Kane's winter quarters, and shortly afterwards some Esquimaux visiting the hut, Hayes asked them to accompany and assist the party back to the brig. The Esquimaux declined, and much suspicion was aroused, when it was found that they had, before entering the hut, buried some large chunks of bear and walrus meat in the snow. The doctor determined on a somewhat desperate *ruse.* A stew *flavoured with laudanum* was prepared, and after a

time the narcotic took good effect. The natives composed themselves to sleep. Godfrey, in moving a cup off a shelf, brought down the whole with a clatter. The Esquimaux awoke partially, and it was evident that their slumbers were not very deep. The men secured the natives' clothing, hitched up their dogs and sledges, and started off at a furious rate. The dogs, however, gave them much trouble, and after a halt for coffee, and also to repair the broken whips, they were not surprised at finding the prisoners left at the hut in full pursuit. Hayes ordered the rifles to be pointed at them as they approached. The Esquimaux, with many deprecatory gestures, promised to act as friends and guide them to the brig. Fortunately there was no blood shed.

After many adventures on and among the ice, in one of which Hayes was nearly drowned in an opening chasm, they at length reached the brig, as before described, and received a hearty welcome from Dr. Kane.*

* A fuller account of Dr. Hayes' adventures will be found in "Winter in the Arctic Regions," etc., by Charles Tomlinson, F.R.S., a work issued by the publishers of this volume. It describes more particularly the phenomena, conditions of life, and problems connected with the Arctic, and could be read with advantage by those who have followed the footsteps of our Heroes, as recorded here.

CHAPTER XXI.

Hayes' Polar Expedition—The Schooner *United States*—Port Foulke—A Difficult Journey—Objects of the exploration—Morton's furthest Point excelled—Another Glimpse at the open Polar Sea—Rotten Ice—View from a Headland—Return to the Schooner.

IN 1860, Dr. Hayes was again in the field. His object was to search for that open Polar sea, in which so many believed, and which, in his case, was a positive faith, strengthened by the discovery which he knew had been made by Morton on Kane's expedition. The *United States*, a fore-and-aft schooner, of 133 tons burden, was purchased and considerably strengthened for the ordeal through which she was to pass. The expenses were principally defrayed by private subscription, Mr. Grinnell, of New York, once more lending both material and more indirect aid to the cause. Hayes' party complete only numbered fourteen persons. The expedition left Boston July 6th, 1860.

Hayes' intention was to proceed in the vessel *viâ* Smith Sound and Kennedy Channel as far north-

ward as possible, and to winter in some suitable harbour on the west coast of Greenland, and then attempt with sledges to reach the open northern water in the following spring. After many dangers incurred among the ice, he laid the vessel up at Port Foulke, and passed a comparatively easy winter. In the months of April and May, 1861, the doctor succeeded, with dogs and sledges, in reaching a point north of that attained by Morton, and had the pleasure of looking out on an open sea.

The journey was one of difficulty. Several of the men nearly succumbed to the intense cold during the march, and it required all the doctor's energies to rouse them into action. We read of terrible storms and drifting snows, of a hummocky, broken route, of opening floes, and of failure in attempting to take their boat across Smith Sound, "where," says the narrative, "a hundred men could not have accomplished the task." A part of the men had to be sent back to the schooner; and it occupied Hayes and his remaining companions thirty-one days to cross the Sound.

Having reached Kennedy Channel, the temperature became suddenly and oppressively mild. The birds were returning to their Arctic summer haunts, and the ice was getting very rotten and watery. Hayes' journal at this juncture will best explain the nature and object of his exploration :—

"Our simple breakfast over," writes he, "I was once more plunging through the hummocks, making my last throw. Our track lay across a bay so deep that the distance would be more than quadrupled if we followed the tortuous windings of the shore upon the land ice.

"My purpose now was to make the best push I could, and travelling as far as my provisions warranted, reach the highest attainable latitude, and secure such a point of observation as would enable me to form a definite opinion respecting the sea before me, and the prospects of reaching and navigating it with a boat or with the schooner. I had already reached a position somewhat to the northward of that attained by Morton, of Dr. Kane's expedition in June, 1854, and was looking out upon the same sea from a point probably about sixty miles to the northward and westward of Cape Constitution, where only a month later in the season his further progress was arrested by open water.

"It only remained for me now to extend the survey as far to the north as possible. By the judicious husbanding of my resources, I had still within my hands ample means to guarantee a successful termination to a journey which the increasing darkness and extent of the water-sky to the north-east seemed to warn me was approaching its climax.

"Our first day's journey was not particularly encouraging. The ice in the bay was rough, and the snow deep, and after nine hours of laborious work we were compelled to halt for rest, having made, since setting out, not more than as many miles. Our progress had been much retarded by a dense fog which settled over us soon after starting, and which, by preventing us from seeing thirty yards on either side, interfered with the selection of a track, and we were, in consequence, forced to pursue our course by compass.

"The fog clearing up by the time we had become rested, and the land being soon reached, we pursued our way along the ice-foot with much the same fortune as had befallen us since striking the shore above Cape Napoleon. The coast presented the same features—great wall-sided cliffs rising at our left, a jagged ridge of crushed ice at our right, forming a white fringe, as it were, to the dark rocks. We were, in truth, journeying along a winding gorge or valley, formed by the land on one side and the ice-gorge on the other; for this ice-fringe rose about fifty feet above our heads, and except here and there where a cleft gave us an outlook upon the sea, we were as completely hemmed in as if in a *canon* of the Cordilleras. Occasionally, however, a bay broke in upon the continuity of the lofty coast, and as we faced to the

westward along its southern margin, a sloping terraced valley opened before us, rising gently from the sea to the base of the mountains, which rose with imposing grandeur. I was never more impressed with the dreariness and desolation of an Arctic landscape. . . . As the eye wandered from peak to peak of the mountains as they rose one above the other, and rested upon the dark and frost-degraded cliffs, and followed along the ice-foot and overlooked the sea, and saw in every object the silent forces of Nature moving on—through the gloom of winter and the sparkle of summer—now, as they had moved for countless ages, unobserved but by the eye of God alone, I felt how puny indeed are all men's works and efforts; and when I sought for some token of living thing, some track of wild beast—a fox, or bear, or reindeer, which had elsewhere always crossed me in my journeyings—and saw nothing but two feeble men and struggling dogs, it seemed indeed as if the Almighty had frowned upon the hills and seas.

"Since leaving Cairn Point we had looked most anxiously for bears; but although we had seen many tracks, especially about Cape Frazer, not a single animal had been observed. A bear, indeed, would have been a godsend to us, and would have placed me wholly beyond anxiety respecting the strength of the dogs, as it would not

only have put more life into them, but would have given them several days of more substantial rations than the dried beef which they had so long been fed upon.

"After a ten hours' march we found ourselves once more compelled to camp, and four hours of the following day brought us to the southern cape of a bay which was so deep that, as in other cases of like obstruction, we determined to cross over it rather than to follow the shore line. We had gone only a few miles when we found our progress suddenly arrested. Our course was made directly for a conspicuous headland bounding the bay to the northward, over a strip of old ice lining the shore. This headland seemed to be about twenty miles from us, or near latitude 82°, and I was very desirous of reaching it; but, unhappily, the old ice came suddenly to an end, and after scrambling over the fringe of hummocks which margined it, we found ourselves upon ice of the late winter. The unerring instinct of the dogs warned us of approaching danger. They were observed for some time to be moving with unusual caution, and finally they scattered to right and left, and refused to proceed further. This behaviour of the dogs was too familiar to me to leave any doubt as to its meaning, and moving forward in advance, I quickly perceived that the ice was rotten and unsafe. Thinking that

this might be merely a local circumstance, resulting from some peculiarity of the current, we doubled back upon the old floe, and made another trial further to the eastward. Walking now in advance of the dogs they were inspired with greater courage. I had not proceeded far when I found the ice giving way under the staff with which I sounded its strength, and again we turned back and sought an easier passage. . . .

"Surprised at the condition of the ice in the bay, I determined to climb the hill above the camp, with the view of ascertaining the probable cause of our being thus baffled. . . . After a most profound and refreshing sleep, inspired by weariness which I had rarely before experienced to an equal degree, I climbed the steep hill-side to the top of a rugged cliff, which I supposed to be about eight hundred feet above the level of the sea.

"The view which I had from this elevation furnished a solution of the cause of my progress being arrested on the previous day.

"The ice was everywhere in the same condition as in the mouth of the bay across which I had endeavoured to pass. A broad crack, starting from the middle of the bay, stretched over the sea, and uniting with other cracks as it meandered to the eastward, it expanded as the delta of some mighty river discharging into the ocean, and under

a water-sky, which hung upon the northern and eastern horizon, it was lost in the open sea.

"Standing against the dark sky at the north, there was seen in dim outline the white sloping summit of a noble headland, the most northern known land upon the globe. I judged it to be in latitude 82° 30′, or four hundred and fifty miles from the North Pole. Nearer, another bold cape stood forth, and nearer still the headland, for which I had been steering my course the day before, rose majestically from the sea, as if pushing up into the very skies a lofty mountain peak, upon which the winter had dropped its diadem of snows. There was no land visible except the coast upon which I stood.

"The sea beneath me was a mottled sheet of white and dark patches, these latter being either soft decaying ice, or places where the ice had wholly disappeared. These spots were heightened in intensity of shade and multiplied in size as they receded, until the belt of the water-sky blended them all together into one uniform colour of dark blue. The old and solid floes (some a quarter of a mile, and others miles across) and the massive ridges and wastes of hummocked ice which lay piled between them and around their margins, were the only parts of the sea which retained the whiteness and solidity of winter. . . .

"All the evidences show that I stood upon the shores of the Polar Basin, and that the broad ocean lay at my feet; that the land upon which I stood, culminating in the distant cape before me, was but a point of land projecting far into it, like the Ceverro Vostochnoi Noss of the opposite coast of Siberia, and that the little margin of ice which lined the shore was being steadily worn away, and within a month the whole sea would be as free from ice as I had seen the north water of Baffin Bay, interrupted only by a moving pack, drifting to and fro, at the will of the winds and currents."

Further progress north was impossible, and after depositing a record and placing some flags upon the rocks, Hayes returned to Port Foulke. More than thirteen hundred miles of ice had been traversed since he left the schooner in April, having completed an exploration of Whales Sound. The anchors were raised, and they "glided down the waveless waters, all sparkling with icebergs," watching the scene of their adventures slowly sinking away behind them under the crimson trail of the midnight sun. This repose of the elements was of short duration. A fearful storm arose, the wind, however, being from a favourable point, and their passage through Melville Bay to Upernavik was very quickly made. They shortly afterwards arrived at Halifax, at a period when the great

American strife was at its climax. Hayes immediately wrote a letter to the President, asking for employment in the public service, a proof that he was made of stern material.

CHAPTER XXII.

M'Clure and the North-West Passage—The Fate of Bellot—Expeditions to the East Coast of Greenland—Impenetrable Ice—Voyages of the *Erik*.

WHILE the discovery of the North-West Passage is, by the most eminent writers, attributed to Sir John Franklin's party, Captain Sir Robert M'Clure did also, while on his searching expedition, undoubtedly solve the problem. No braver or more resolute explorer has ever dared the perils of the Arctic. His vessel, the *Investigator*, was three winters in the ice in Melville's Sound and off Banks' Land, and had to be abandoned in the end. In the spring of 1853 it had been determined to send the weaker part of the crew to Hudson's Bay stations on the Mackenzie, and to attempt with the stronger men the journey to Lancaster Sound over the ice, when Lieutenant (now Admiral) Pim, from Captain Kellett's ship, the *Resolute*, which had entered the Arctic from the Atlantic side, appeared, and brought intelligence of relief being at hand. The united

BELLOT'S DEATH.

Face page 215.

crews were eventually taken to England by a tender, the *North Star*, after an absence of four years. They were the first navigators who had passed from Bering's Straits to Baffin's Bay. Richardson says of this expedition, "Captain Sir Robert M'Clure, by this perilous voyage, prosecuted with undaunted perseverance, found a strait connecting the continental channel with Melville Sound, and thus discovered the North-West Passage, after it had been discovered in another quarter by Captain Crozier, and the survivors of the *Erebus* and *Terror*, who perished in accomplishing their object."

Among the many brave men who engaged in the Franklin search, we must not forget Kennedy, who was sent out at Lady Franklin's expense, in 1851, to examine the larger islands of the Arctic. Sailing up Davis' Strait and Baffin's Bay, he reached Regent Inlet. Kennedy and four men, on a boat expedition, became entangled in the floating ice, and cut off from the ship. They reached the coast, and ascended a cliff, but could nowhere discern the vessel. Eight days elapsed, when Lieutenant Bellot, a brave young French sailor, who had joined the expedition as a volunteer, brought them succour. Bellot afterwards greatly distinguished himself as an explorer; and his death, under painful circumstances, while with Captain Inglefield's expedition, was greatly regretted by his warm-hearted

companions. He had been out with two sailors on the ice, when it separated from the main pack, and became broken up. The sailors, after thirty hours had been spent by them with the momentary expectation of sudden death, were rescued; poor Bellot fell through a fissure of the grinding, tossing ice, and was no more seen.

We have seen that the site of the long-lost *eastern* colony of Greenland has been proved to be on the *west* side. Had this been believed earlier, many expeditions would have been saved, which, however, have added something to our knowledge of the Arctic regions. In 1786—87, the King of Denmark fitted out an expedition, the command of which was entrusted to Captain (afterwards Admiral) Lowenorn, and Lieutenant Egede, a descendant of the missionary Hans Egede, was put in charge of a smaller vessel. Their observations on the impenetrable fields of ice on the east coast of Greenland were confirmatory of the experience of older and subsequent investigators.

"The last expedition," says Mr. Markham, "to search for the lost colony on the east coast of Greenland was undertaken by Messrs. Antony Gibbs & Sons, the eminent London and South American merchants, at the suggestion of Mr. T. W. Tayler, a chemist and enthusiast, whose readings of Icelandic literature had led him to believe that the

lost colony might be found, and that a flourishing trade might be re-established. The Crown of Denmark granted a charter to Messrs. Gibbs, through the agency of Mr. Tayler, for the exclusive right of trading with the east coast of Greenland. On August 21st, 1863, an expedition was despatched from Gravesend, consisting of two iron steamers, entirely unfortified, called the *Baron Hambro'* and *Caroline*, under the leadership of Mr. Tayler, with a view of forming a settlement at Ekalumint, in latitude 63° N. The reason for sailing at so advanced a period in the year was that, as the most southern ports on the west coast of Greenland are not open until the ice has been carried past them by the Arctic current, it was believed that the same operation must have cleared the east coast, or at least have rendered it accessible somewhat earlier. On September 5th land was sighted from the *Baron Hambro'* in the vicinity of Ekalumint, which was estimated to be at a distance of forty miles. But the ice was so closely packed that a course was shaped to the north, and, in 63° 30′, an attempt was made to work into the pack, which, however, was found to be so close as to be impenetrable, and with great difficulty the vessel was extricated. On September 8th another fruitless attempt was made at the ice in 62° 30′, and on the 10th yet another effort was made in 61°, with a like result. It had

become painfully manifest that it was useless to attempt to find or force a passage through the pack which intervened between the ships and the land, and the only remaining hope was that a gale of wind might drive the ice from the land. On the 11th a heavy S.W. gale set in, and lasted for three days, during which the *Baron Hambro'* and *Caroline* were obliged to run out to sea; when the wind moderated, they again stood in, and, at about 120 miles from the land, were stopped by an immense field of ice, along which the steamers coasted at full speed for some hours. At last they doubled the southern point of the ice, and got within twenty miles of the land, in latitude 60° N., but here again they were stopped by an impenetrable barrier of ice closely packed upon the shore. There was no lane of water between the land and the ice. The attempt was then abandoned, and the expedition returned to England.

"But the failure was attributed to the employment of vessels which had not been specially adapted for ice navigation, and Messrs. Gibbs resolved to make another attempt, by equipping an expedition on a more adequate scale. The year 1864 was devoted to building the *Erik* at Dundee. She is a fine steamer, of 412 tons and 70 horse-power, thoroughly well strengthened for work in the ice, and with angle-irons round the bows for

charging the floes. The *Erik*, again under the leadership of Mr. Tayler, sailed from London for Rekjavik, where a depôt of coals had been formed in May, 1865, then proceeding to the pack edge. Although the *Erik* succeeded in forcing her way through the ice farther than was done by the two smaller steamers in 1863, she could not reach the land. Two attempts were made, and then the enterprise was finally abandoned, the *Erik* having since made annual whaling voyages to Baffin's Bay, under the able command of Captain Walker. This interesting attempt to reach the east coast of Greenland reflects honour upon the merchants who undertook it."

CHAPTER XXIII.

Swedish Expeditions—Scientific Result—Voyage of 1868—Among the Ice—High Latitude attained—The *Sofia* dashed on an Ice-block—All Hands to the Pumps—The Leak stopped—The Ship's Ribs broken—Return to Norway.

WE have now arrived at a period when our own Government for a time abandoned Arctic enterprises. Not, so, however, other nations. Sweden alone between the years 1858 and 1872 sent out no less than five expeditions. The first was fitted out at the expense of Otto Torell, a man of some wealth and greater scientific reputation. The expenses of the others were mostly defrayed by the Swedish Government, with some aid from the leading cities.

These expeditions to Spitzbergen were all under the direction of Professor Nordenskiold, and the objects of their mission were entirely scientific. Most extensive geological, zoological, and botanical collections were made, and important astronomical observations were instituted. The heights of various mountains—the loftiest of which was Horn's Sound

Peak, 4,560 feet above the sea level—were determined. The Swedes reached a latitude of 81° 42′ N. during the expedition of 1868.

Professor Nordenskiold gives a graphic account of this attempt to pass northward from the Seven Isles. He says* :—

"After a number of zigzags amidst the drift-ice, our vessel, in longitude 17½ E. from Greenwich, succeeded in arriving at 81° 42′ N. latitude.† . . .

"Northward lay vast ice masses, it is true as yet broken, but still so closely packed that not even a boat could pass forward, and we were therefore obliged to turn to the south-west and seek for another opening in the ice; but we found, on the contrary, that the limit of the ice stretched itself more and more to the south the more we went to the west, so that, on the 23rd September, in the longitude of Greenwich, we were south of the parallel of 79° N. latitude. On the way we had, in several places, met with ice black with stones, gravel, and earth, which would seem to indicate the existence of land still further north.

"The ice itself had, moreover, a very different appearance from that which we had met in those tracts at the end of August. It consisted now, not only of larger ice fields, but also of huge ice blocks,

* Journal of the Royal Geographical Society for 1869.

† Captain Hall reached lat. 82° 16′.

so that it seems as if the former ice had drifted to the south, and given place to new ice-masses coming from the north. The temperature had now sunk to 8° or 9° (centigr.) below the freezing point, and the ice, which in these parts had been of tolerably loose texture, had now become so compact that any more violent collision with it was combined with no little danger. Furthermore, the nights were so dark that it was necessary at that time to lay the ship to by the side of some large sheet of ice, at the hazard of finding oneself blocked up there in the morning. Already, in the beginning of September, the surface of the ocean, after a somewhat heavy fall of snow, had shown itself, between the ice masses, covered with a coating of ice, which, however, was then thin, and scarcely hindered the vessel's progress. Now, it was so thick, that it was not without difficulty that a way could be forced through it.

. . . . .

"On the 25th of September the *Sofia* once more cast anchor at the north-west corner of Spitzbergen, after having slightly struck upon a rock situated under the surface of the water in the middle of South-gat.

. . . . .

"After a few days' rest, spent in inspecting the engine and taking in coal (the last remains of our store of coal had to be searched for under a thick

covering of snow), and after having placed in the letter-box on the island of Kobbe Bay notices of our journey and our plans for the future, we steamed away again, on the 1st of October, northward, notwithstanding a strong wind and a snow-fog that prevailed in the harbour we left. Our suspicion that this was only local seemed to be confirmed when we got out a little farther north, as the weather became clearer and calmer, but at the same time we met already, in lat. 80° 40′, sporadic blocks of drift-ice, which, as we proceeded further north, increased in number and size. We continued our northward course during the following day, but it was soon evident that no open water would be arrived at that way, and in the afternoon we were again steering in a southerly direction. During the night we lay to under cover of a large sheet of ice. The temperature had now sunk to 14° 5′ (centigr.), so that in calm weather the surface of the water between the ice-masses was covered with ice of two or three inches thickness, which considerably impeded the progress of the ship. On the following day we steered southward till we got into something like open water, and then followed the edge of the ice in a northerly and north-westerly direction. By this means we again arrived at 81° N. latitude, but here the *Sofia* met with a misfortune, which put an end to all further

efforts to proceed northward. On the morning of the 4th of October, during a storm from the south-east, and with a high sea, the ship was thrown violently upon a huge ice-block, or rather a small iceberg, whereby she sprung an extensive leak. We were therefore forced to turn back immediately and seek our harbour, where we arrived late in the evening, and after eleven hours of incessant labour to keep the vessel free from water. Nevertheless, though all took part in this work, the water continually rose, so that when the anchor was cast at Amsterdam Island it stood about two feet over the cabin floor. Fortunately the provisions, being kept between water-tight bulk-heads, were uninjured, and we succeeded, though with great difficulty, in keeping the engine room so free from water that the fires were not extinguished. Had this not been the case, our ship must unquestionably, in a short time, have been the prey of the storm and the extremely heavy sea, which now, contrary to our former experience, raged among the thinly scattered fields of drift-ice. Immediately on our arrival at Amsterdam Island, the ship was careened and the leak provisionally stopped, so that already the next day we were in a condition to seek a more secure harbour in King's Bay. Here the ship was hauled so close to land at flood, that we at ebb were enabled to come at the leak and stop it effectually.

"King's Bay, which in summer time is almost free from ice, was now filled with innumerable ice blocks fallen from the mighty glaciers of the fjord, which, when carried by the flood tide in towards land, totally barricaded the harbour in which the *Sofia* had taken refuge; and, notwithstanding that the temperature here was considerably higher than in the neighbourhood of 81° N. lat., these blocks froze during the calm weather so fast together, that when we, on the 12th of October, were again in condition to sail, it was only with the utmost difficulty that our vessel could get out.

. . . . .

"Our ship, which had had two ribs broken by the blow that caused the leak, was now too weak to be exposed, with the slightest prospect of success, in any new attempt to force a way through fields of drift-ice, as would in all probability be necessary, should we endeavour to visit the Seven Islands, which place we had intended to make our winter harbour; and the wintering in any other part of Spitzbergen not having either entered into the plan of our voyage, nor promising any results commensurable with the costs, dangers, and hardships of passing the winter there, we determined to return to Norway." The *Sofia* reached Tromso harbour, October 20th, in safety.

CHAPTER XXIV.

Dr. Petermann's Efforts in the cause of Geographical Science—Koldewey's First Expedition — Enormous Icebergs—The Second German Expedition — Building of the *Germania* — The Scientific Corps—Departure from Bremerhaven—The Two Vessels separated among the Grinding Ice—The *Hansa* lifted bodily out of the Water —Wreck of the *Hansa*—Life on a Drifting Floe.

DR. A. PETERMANN, of Gotha, the eminent German geographer, needs no commendation at our hands. The two Arctic expeditions which have reflected so much glory on his country owe their origin in a great extent to his exertions.

At his instance, and with means supplied by the leading scientific societies of Germany, a small vessel was fitted out, and left Bergen May 24th, 1868. The object of the expedition was to get as near the North Pole as might be. The command was entrusted to Captain Karl Koldewey, a name which now-a-days may well be placed in the front rank of our Arctic heroes. Koldewey is a Hanoverian, had been educated in the pilot school of

Bremen, and is a practical sailor. In order to fit himself for this first expedition, he, for the time, abandoned his profession, and studied at the University of Göttingen. With him the proposed exploration was a labour of love.

An icy barrier off the South Cape of Spitzbergen and a terrible storm obliged him to steer to the eastward. His vessel passed safely between icebergs, many of which were taller than her masts, and after many perils again returned to the South Cape. Thence he coasted Spitzbergen to the north-west, reaching the little island of Amsterdam, and proceeding northward in search of the almost unknown Gillis Land. Baffled by ice and tempest he endeavoured to reach the east coast of Greenland; but failing, returned to Spitzbergen. He sailed through the strait between that island and North East Land. The season being now advanced, he turned his vessel's head homewards, reaching Bremen on October 9th. Two weeks afterwards, at a banquet given in that port to celebrate their happy return, the idea of a second expedition was mooted.

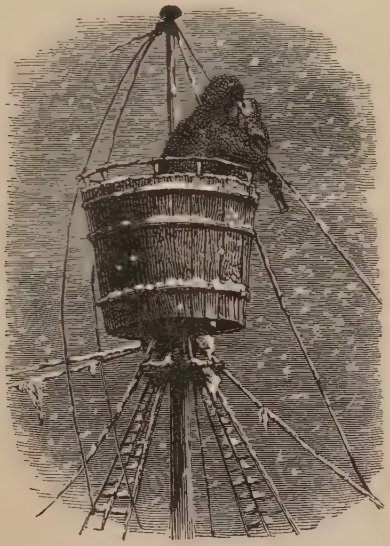
All the chief cities of the then North German Confederation contributed liberally, and the construction of a steam-vessel was at once commenced. The *Germania*, for such she was appropriately named, was built at Bremerhaven in the short

space of thirty-six days. She was ninety feet long and 143 tons burden, and was constructed—with a special regard to the service in which she was to be employed—with extra beams, double metal sheathing, and great strength in the bows. Her sharp built hull not merely made her a good sailer, but was also of advantage among the ice. Including the machinery and fittings she cost £3,150.

The scientific corps of the *Germania* included the following gentlemen: Dr. Karl, N. J. Börgen; Dr. R. Copeland, an Englishman, assistant in the observatory at Göttingen; Lieutenant Julius Payer, of the Imperial Austrian Army, and Adolphus Pansch, surgeon, to whom were assigned the departments of zoology, botany, and ethnology. That of the brig *Hansa*, commanded by Captain P. F. A. Hegemann, a tender to the *Germania*, included the following names: Doctors Buchholz, surgeon, and G. Laube, who would between them attend to all scientific details.

The expedition parted from Bremerhaven, June 15th, 1869, in the presence of His Majesty the King of Prussia, who took an active interest in its success, and warmly shook hands with its members. His Royal Highness the Duke of Mecklenburg-Schwerin, Count (now Prince) Bismarck, Von Roon, General Von Moltke, and Vice-Admiral Jachman, witnessed the departure of the vessels. Cheers

from a thousand voices rent the air as the king passed down to the *Germania*, and inspected her arrangements with great attention. Amidst the roar of cannon and the shouts from lusty German lungs, the *Germania* and *Hansa* disappeared from sight.



THE "CROW'S NEST."

In lat. 70° 46′ N., long. 10° 51′ W., off the east coast of Greenland, the *Hansa*, which had on board some of the supplies of fuel for herself and consort,

became separated from the *Germania*, and got caught among the ice. It was so dense that it was in vain that they looked for an opening from the "crow's nest," the barrel placed at the mast-head as a nautical observatory. The boats were kept on deck ready victualled in case of disaster.

While among the ice many polar bears were encountered. A mother and cub approached the vessel one day; the old one was killed. "The young one," says the narrative, "was caught, escaped again, and was brought back swimming, and, lastly, chained to the ice-anchor. It was very frightened, but eagerly devoured its mother's flesh, which we threw to it. We built it a snow-house and offered it a couch of shavings, which, however, the young bear, as a genuine inhabitant of the Arctic seas, despised, and preferred camping in the snow. Some days later it had disappeared, together with the chain, which must have become loosened from the anchor. From the weight of the iron alone the poor creature must soon have sunk. With a brisk wind came two white foxes from the coast close to the ship—a certain proof that the ice, either in fields or young ice, must extend to the coast."

After many vicissitudes the ice began to grind and break around the ship "at regular intervals underneath," says the narrator; "the ice, like a

succession of waves, groaned and cracked, squashed and puffed; now sounding like the banging of doors, now like many human voices raised one against the other, and lastly, like a drag on the wheel of a railway engine. The evident immediate cause of this crushing was that our field had turned in drifting, and was now pressed closer to the coast-ice. The two floes of ice lying before the vessel received the hardest pressure, so that for a time the *Hansa* was spared, though trembling violently." The masts swayed to and fro, and the whale-boat, towing ahead, seemed in such imminent danger that she was recalled to the ship. Towards evening the weather cleared again, but the following day brought worse fortune. The crew was occupied in erecting a house on the ice in case of shipwreck, and some stores, clothing, and fuel were moved into it. Up to this time the rats had not abandoned the ship. On the morning of the 19th a N.N.W. storm of snow foreboded mischief. The air was gloomy and thick, and the coast, scarcely four miles distant, could not be seen. The first heavy ice pressure came about 10 A.M., when the ship was partially forced up on the floe. A little later it was raised seventeen feet out of its position in the water among the grinding ice. "The rising of the ship was an extraordinary and awful, yet splendid spectacle, of which the whole crew were

witnesses from the ice. In all haste the clothing, nautical instruments, journals, and cards (charts), were taken over the landing-bridge. The after-part of the ship, unfortunately, would not rise; and therefore the stern-post had to bear the most frightful pressure, and the conviction that the ship must soon break up forced itself upon our minds.

"About five o'clock there was again a pause in the pressure of the ice-floes, and the raised ice retreated, so that in the course of an hour the ship, lying on her starboard side, glided into more open water. The hawsers, which had been cast loose, so as not to stop her from rising, were again made fast, after which we went to the pumps, and found that there were seventeen inches of water in the hold. We set them working at once, and about seven o'clock had the pleasure of finding them run more slowly. We now allowed ourselves time for our evening meal, for we might entertain the hope that, in spite of the frightful pressure she had sustained, our ship was not very leaky. But in a quarter of an hour's time we found, to our terror, that there was again two feet of water in the pumps. Even admitting that part of this water had penetrated slowly from the after-part, the ship must be dreadfully leaky. Again we set to work at the pumps, determined to do all in our power to rid

our vessel of the water. A half-hour's work, however, showed that all exertions were vain; the depth of the water in the cabin was increasing steadily, though slowly. The most careful investigation of the ship, however, did not reveal the position of the leak. In vain did both captain and steersman listen to the sound of water dripping. Evidently this was taking place at some part of the ship's bottom, under the coal. Besides the leak in the stern-post, the keel must have sustained a fracture; perhaps even the ship's sides near the floor-heads had been forced in. Enough! the fate of the *Hansa* was sealed; our good ship must go to the bottom! Calmly, though much moved, we faced this hard fact. The house of coal on the southward drifting ice-fields was destined now to be, through the long Arctic winter, our only place of refuge—perhaps, too, our grave! There was not a minute's time to be lost. The work went steadily forward. By 9 P.M. the fall of snow had ceased; a clear starry heaven shone down upon us, and the moon shed her light over the dreary ice-field. Now and again the northern lights shot upwards in ever-changing colours. At the same time it was freezing sharply, the thermometer marking in the night 13° Fahr. The men stayed by the pumps, or were engaged in moving stores from the vessel to the floe. The after-deck was full of ice, and the

men who worked the pumps had to stand in tubs in order to keep dry. Night allowed the crew some few hours of sleep; then all gladly took some hot coffee and set to work again. But the catastrophe was near; at 8 A.M. the men who were busy in the fore-peak getting out firewood came with anxious faces, with the news that the wood was already floating below. When the captain had ascertained the truth of this intelligence he ordered the pumping to cease. It was evident that the ship was sinking, and that it must be abandoned.

"The first thing to be done was to bring all necessary and useful things from the 'tween-decks on to the ice—bedding, clothing, more provisions, and coal. Silently were all the heavy chests and barrels pushed over the hatchway. First comes the weighty iron galley, then the two stoves are happily hoisted over: their possession insures us the enjoyment of warm food, the heating of our coal-house, and other matters indispensable for a wintering on the floe. At three o'clock the water in the cabin had reached the table, and all movable articles were floating. The fear that we should not have enough fuel made us grasp at every loose piece of wood and throw it on to the ice . . . . Round about the ship lay a chaotic mass of heterogeneous articles, and groups of feeble rats

WRECK OF THE "HANSA."

Face page 234.

struggling with death, and trembling with the cold! All articles, for greater safety, must be conveyed over a fissure to about thirty paces farther inland. The galley we at once took on a sledge to the house, as we should want it to give us warm coffee in the evening. We then looked after the sailor Max Schmidt, who was suffering from frost-bite, and brought him on planks under the fur covering to the coal-house. By 9 A.M. all were in the new asylum, which was lit by the cabin-lamp, and looked like a dreary tomb. Pleased with the completion of our heavy day's work, though full of trouble for the future, we prepared our couch. A number of planks were laid upon the ground, and sail-cloth spread over them. Upon these we lay down, rolled in our furs. A man remained to watch the stove, as the temperature in the room had risen from 2^0 Fahr. to $27\frac{1}{2}^0$ Fahr. It was a hard, cold bed; but sleep soon fell upon our weary, overworked limbs. On the morning of the 21st we went again to the ship to get more fuel. The coal-hole was, however, under water. We therefore chopped down the masts, and hauled them, with the whole of the tackle, on to the ice—a work which took us nearly the whole day. At eleven the foremast fell, at three the mainmast followed; and now the *Hansa* really looked a complete, comfortless wreck." Shortly afterwards the vessel

went down. Many of the scientific collections and apparatus were lost. They were at this time only six miles from Halloway Bay, on the Liverpool coast, Greenland.

CHAPTER XXV.

Philosophical Resignation—Christmas on the Drifting Ice-field—Fearful Storms—The Floe diminishing in Area—Their House ruined—The Spectre Iceberg—1,100 Miles on the Ice-raft—An Island reached—Welcome at Friedriksthal—Voyage of the *Germania*—Winter Quarters—Christmas on Board—Adventure with a Bear—Discovery of Coal.

THESE brave men, although now hopelessly abandoned, as it seemed to them, on a rapidly drifting field of ice, acted like philosophers. The German spirit asserted itself. They did everything which they could to make the situation endurable; and even kept Christmas Day with some show of hilarity and cheerfulness, although howling desolation reigned around them, and their temporary refuge might at any moment break up. If their virtue was assumed, it was none the less a virtue under the circumstances. Where would their next Christmas be spent? Very sad forebodings mingled with their pleasures and forced gaiety. Nevertheless the custom of the *Faderland* must be kept up. A pine-

wood and birch-broom Christmas-tree was erected ; presents from friends at home, which had been kept unopened till this time, were distributed. We have seen many of our Arctic explorers enjoying Christmas amid the dreary stillness of the polar night, but this is the first example recorded of Christmas on a drifting Greenland floe.

Early on the 26th they were alarmed by the belief that they were drifting to land ; the air was thick, and about three miles ahead a dark mass could be distinguished, which looked like an island. Next day it proved to be a gigantic iceberg moving much more slowly than the ice-field.

The New Year brought fine clear weather ; but on January 2nd a storm arose. A scraping, crackling, grating, jarring sound was heard under the floe, which they feared would break up at any moment. They packed their furs, and filled their knapsacks with provisions. Ropes were stretched from the house to the boats, so that in case of a catastrophe they might be able to reach them. All this time the snow was drifting so rapidly that nothing could be seen around. The wind abating, some of them went to the spot, five hundred steps from the house, where their sunken brig lay. They there found a new wall of ice, and beyond it broken, shapeless masses, indicating that the floe had given way on that side. On the morning of the 4th

the storm had worn itself out, and it was found that the floe had lost considerably in circumference.

Still they drifted, all the time engaged in making swimming-jackets of cork, and snow-shoes to prevent them sinking up to the hips, as they did on former occasions. The days from the 11th to the 15th of January brought them new horrors. On the first-named day a tumult of the elements, beyond anything they had already experienced, was heard without their dreary house. The floe surrounding them commenced to split up; a heavy sea arose. Between their hut and a piled-up stack of wood a huge gap opened. All seemed lost. The smaller boats were brought for safety on to the middle of the floe, now so greatly reduced in size. They were obliged to leave the large boat entirely. The community was divided into two parts, and they bade each other good-bye, not knowing whether or no the next moment would not be their last. They stood or cowered by their boats the whole day.

Next night the watch was heard exclaiming excitedly, "Turn out; we are drifting on to a high iceberg." All rushed from the house: close upon them, as if hanging over their heads, towered a huge mass of ice, of giant proportions. "It is passed," said the captain. Was it really an iceberg, the mirage of one, or the stern cliffs of the coast?

They did not and could not decide the question, owing to the swiftness of the drift. The ghastly object disappeared as quickly as it had come.

On the evening of the 14th the ice was once more in rapid motion; the floe burst, and the boat *Bismarck* and the whale-boat were brought into the middle of the ice. Fissures opened at every point. The house was unroofed and ruined. They lay in the boats, half in water, half in snow, shivering with the cold and wet to the skin. On the morning of the 16th the second officer caught sight of a star; the driving snow had not quite left off, but it was considered a happy omen. For five nights they slept in the boats. A new and smaller house was erected from the ruins of the old one. "Throughout all the discomfort, want, hardship, dangers of all kinds," says the narrative, "the frame of mind among the men was good, undaunted, and exalted. The cook kept a right seaman-like humour, even in the most critical moments. As long as he had tobacco, he made no trouble of anything. On the 3rd of January, during the frightful pressure of the ice, which destroyed our floe, and threatened every minute to sink our house, the cook happened to be repairing the coffee kettle. 'If the floe would only hold together until he had finished his kettle! he wished so to make the evening tea in it, so that before our departure we might have something warm.'"

Late in January and early in February, certain signs of life encouraged them. A hawk, a raven, and sea-gulls flew over their heads, and a glimpse was caught of some seals. A fox appeared at the house. It stayed many days, and became at last so bold that it would fetch the meat thrown from the galley, and allow itself to be stroked.

Still day after day they drifted, till by May their sextants told them they had voyaged 1,100 miles on their icy raft. At length, on June 4th, they succeeded in landing on the island of Illuidlek. They had previously nearly starved to death, but here they obtained some ducks. Two days afterwards they started in their boats, and after sundry adventures reached the Greenland Moravian Mission Station of Friedriksthal, where they met with a warm welcome. "Once more," says a great Arctic authority, "they were safe, after perils, compared with which even Barents' wondrous boat voyage from Novaya Zemlya pales, and Kane's escape from Smith Sound sinks to the dimensions of a boating excursion." In spite of all their hardships none of the crew had died.

On July 25th they left Greenland on a royal Danish ship, and safely reached Copenhagen on September 1st.

Having seen the officers and crew of the ill-fated *Hansa* safe in port, we turn to the fortunes of

Koldewey and Payer on the *Germania*. She succeeded in reaching, on the east coast of Greenland, the latitude of 75° 30′, but was then forced to turn back again and winter among the Pendulum Islands (lat. 74° 30′ N.). Intense cold was experienced; but musk-oxen were abundant, and the winter was passed agreeably in hunting and in sledge journeys. Christmas was spent right royally. "By starlight," says Koldewey, "we danced upon the ice. Of the evergreen *Andromeda* (*Cassiope tetragona*) we made a Christmas-tree. The cabin was decorated with flags, and the presents which loving hands had prepared were laid out upon the tables. Every one received his share, and universal mirth prevailed."

Somewhat later followed a hot supper, at which the cook astonished them with some delicious cakes. "Healths were drunk in foaming wine of the Neckar; and at dessert, a large chest, which had taken its place in the cabin since yesterday, was opened. It contained a valuable present from Mainz, a number of bottles of excellent Rhine wine. You should have seen the men of the *Germania!*" These happy, hearty Germans joked, talked, and sung the songs of the Fatherland. Each one had his song-book, a thoughtful present from the great German publisher, G. Westermann, and midnight passed before they retired to rest.

On January 11th the vessel was found to be on fire. The deck beams and planks were burned, but it had been fortunately discovered in time, and all hands assisted in extinguishing it.

On March 6th Dr. Börgen was out on the ice, when, hearing a rustling noise, he turned and beheld a hungry polar bear. "There was no time," writes the doctor, "to think or use my gun. The grip was so sudden and rapid that I am unable to say how it was done, whether the bear rose and struck me down with his fore-paws, or whether he ran me down. But from the injuries I have sustained (contusions and a deep cut on the left ear), I conclude that the former must have been the case. The next thing I felt was the tearing of my scalp, which was only protected by a skull-cap. . . . The cry for help which I uttered frightened the animal for a moment; but he turned again and bit me several times on the head. The alarm had meanwhile been heard by the captain, who had not yet reached the cabin." The crew was roused and several shots were fired, but not till Börgen had been dragged three hundred paces did the infuriated animal relinquish his grasp and make off. He had inflicted some twenty wounds, but none of vital nature.

On Kuhn Island, Lieutenant Payer, while out on a sledging expedition, discovered a seam of coal alternating with sandstone. The layer was, in

places, eighteen inches thick. Fuel in that severe climate is so important that the discovery might be regarded as quite sufficient for the credit of the expedition, if its members had done nothing else. In some future ages are we to derive our warmth from the Arctic?

A sledge journey to the north, made during winter, resulted in the collection of very fine zoological and botanical specimens. A cape which jutted out near their most northern camp was named after Prince Bismarck. In the summer, when the water was once again open, a large inlet, hitherto unknown, was discovered in latitude 73° 15′ N. It was named after the Emperor Franz Josef. Surrounding it are mountain peaks from 7,000 to 14,000 feet altitude. One of the former height was named after Lieutenant Payer, who ascended it, and another in honour of Dr. Petermann. The expedition returned to Bremen on September 11th, 1870.

In the year 1870 Count Waldburg-Zeil, a young German officer enjoying a furlough in Norway, determined to do something more than follow the pleasures of the chase. A countryman of his, the Baron von Heuglin, joined him, and they together sailed for Spitzbergen in a Norwegian vessel which happened to be in the harbour of Tromso. Their explorations were of importance. They first ex-

plored Stor Fiord, between Spitzbergen Edge and Barentz's Island. On the former island Heuglin ascended a high hill, and saw extensive land on the eastern horizon with many high snow peaks. They then, after other minor explorations, retraced their course to Tromso.

CHAPTER XXVI.

Hall's Life among the Esquimaux—The *Polaris* Expedition—Highest Latitude yet attained—Death of Hall—The Party divided—Nineteen Souls adrift on a Floe—Rescued at last—The Steamer abandoned—Smith Sound and the present Expedition.

CAPTAIN CHARLES FRANCIS HALL returned to America in 1869, after having lived five years with, and almost in the manner of, the Esquimaux of Greenland. He is very generally credited with the discovery of the site of Frobisher's settlement, and his ethnological and other studies are of undoubted value. Early in 1870, encouraged by the Secretary of the United States Navy, the Hon. George M. Robeson, Hall commenced mooting the plans for a new expedition, and succeeded eventually in obtaining a grant of fifty thousand dollars from Congress, while an old United States gun-boat was placed at his disposal. She was re-christened the *Polaris*. Hall was to have sole control of the expedition. No naval officer was to accompany him. He

therefore engaged as sailing master Captain S. O. Buddington, an experienced whaler, Captain G. E. Tyson as second master, Dr. Bessels as naturalist, &c., and Mr. Meyer as meteorologist. Morton, Kane's faithful friend and a tried explorer, accompanied him, as did certain Esquimaux who had been on previous expeditions.

The expedition sailed in the summer of 1871, before his well-known work, "Life with the Esquimaux," had been issued from the press, and after having touched at Disco, the most northerly Danish settlement in Greenland, proceeded up the western shore of Smith Sound, across the Kane basin, through Kennedy Channel, across Polaris Bay (discovered and designated by himself), and up to 82° 16′ N. in a strait named by him after Mr. Robeson. This is the highest latitude ever reached by any ship. She was here beset in the ice, yet a further water horizon was seen towards the north-east. Their winter quarters were in a harbour named Thank-God Bay. Hall, during the late autumn, made a sledge excursion, but did not get further north than before. This was Hall's last journey, before making that from which we ne'er return. He died on board the steamer, November 8th, after severe sufferings, the symptoms indicating congestion of the brain, accompanied by delirium and partial paralysis. Three days

afterwards he was buried, almost amid the scene of his greatest exploit.*

Captain Buddington succeeded to the command. About the middle of November, during the prevalence of a heavy gale, the *Polaris* dragged her anchors, but at last brought up under the shelter of a large iceberg which was aground in the bay. She was made fast to it, and so remained for some time. Later she was much damaged by the ice pressure, and when she got afloat, in June, leaked badly. A party despatched at this time with two boats got as far north as Newman's Bay. One of their boats was crushed in the ice, and about the middle of July they received orders to return, Captain Buddington having determined to sail for the United States.

On August 15th the *Polaris* was so thickly beset with dangerous ice that boats and provisions were removed to a comparatively level floe. Tyson (the second master), Mr. Meyer, the steward, cook, six seamen, and eight Esquimaux remained on the drifting ice, while the *Polaris*, in an utterly un-

* Some doubt having been thrown on the actions of his officers, and even a suspicion of foul play having arisen in some minds, an official enquiry took place at Washington on their return; but it failed to elicit anything further than that there had been dissensions on board. Captain Hall, while delirious, had expressed the opinion that they were trying to poison him, and made his clerk taste all the food, wine, or medicine brought to him, before he would touch it.

manageable state, became separated from them. The evidence elicited at the investigation proved that when she broke adrift and was swept off by the gale it was a dark night; that her steam-pipes, valves, screw, &c., were frozen up, and that she was for hours without steam. Further, she had little coal, and not a boat with her.

After losing sight of the vessel, some of the men and a large part of the provisions were found to be afloat on a separate cake of ice. The men were rescued, and all passed a miserable night together on the drifting floe. Next morning, while attempting vainly to reach the land, the *Polaris* hove in sight, apparently coming toward the floe, under steam and sail. An india-rubber blanket was hoisted on an oar, and displayed from the top of a hummock, and other means used to attract attention. What must have been their bitter disappointment when they saw the steamer alter her course and disappear behind the land! Yet the evidence elicited at the Government investigation tended to show that it would have been madness on the part of the captain to attempt to reach them, and that altogether he considered them in a better plight than himself. He probably had at the time some faint hope of saving the vessel.

These nineteen deserted beings remained on the drifting ice-floe from October 15th, 1872, to April

1st, 1873, or, in other words, passed through an experience nearly as severe as that endured by the crew of the *Hansa* in the dark and dreary Arctic winter. The means of obtaining food became scarcer as the winter advanced, although they derived some benefit from the presence of the Esquimaux. At length they were rescued by the sealing steamer *Tigress*, and taken to St. John's, Newfoundland.

The *Polaris* herself was driven northwards by a severe gale, and at length was purposely run on shore at Lyttleton Island, as she was in a sinking condition. In this place they passed their second winter without special trouble, as they had plenty of provisions. In June, 1873, two boats were constructed from the wreck, and, after reaching Cape York, Captain Buddington, with his officers and men, fourteen souls in all, were rescued by the *Ravenscraig* steam whaler, and later, having been transferred to the whaler *Arctic*, reached Dundee, and eventually their own homes, in safety. In spite of the perils encountered, the only death out of the whole number was that of Captain Hall. It has been often contended that, with certain painful exceptions, the loss of life on Arctic expeditions has been quite as small as that in the Royal Navy on foreign stations.

The result of Hall's explorations has a special

interest at the present time. The best English Arctic authorities favour the route to the Pole by Smith Sound, and it is confidently believed that if the *Polaris*, a river steam-vessel of small power, could be taken as high as 82° 16′ N., a properly-equipped and strongly-fortified vessel or vessels could, with a favourable season, be steamed or sailed much further, and perhaps finally reach the *ultima Thule* of modern science. Such is the route by which Captain Nares' present (1875) expedition hopes to reach the North Pole.

CHAPTER XXVII.

The Austro-Hungarian Expedition—The *Tegethoff* beset in the Ice for Two Years—In great danger—A New Land discovered—The Torments of Tantalus—Sledge Expeditions—Description of Franz Josef Land—The Steamer Abandoned—Long Boat Journey.

THE return of the Austro-Hungarian Expedition, after it had been utterly lost to us, so far as our knowledge of it was concerned, in the icy regions of the far north for more than two years, was one of the leading events of 1874. This expedition, under Lieutenant Weyprecht of the navy, and Lieutenant Payer of the Engineers (who had so distinguished himself on the second German expedition), was partly provided by a public subscription and greatly aided by Count Wilczek, who accompanied it with his yacht *Isbjörnen* as far as Barentsz Island. The small steamer *Tegethoff*, a vessel of 220 tons, was employed on this service. Captain Carlsen, the Norwegian whaler, who had circumnavigated Spitzbergen, joined as ice master. The crew numbered twenty-four men, all told.

The *Tegethoff* left Bremerhaven June 13th, 1872, provisioned for three years, and, after touching at Tromso, shaped her course for the north-east. Much broken ice was encountered, and even early in August the vessel was beset for several days, so as not to be able to move. "Subsequently, however," says Payer,* "we regained our liberty, and in latitude 75° N. we reached the open water extending along the coast of Novaya Zemlya. The decreasing temperature and quantity of ice showed indeed that the summer of 1872 was the very opposite of that of the year before.

. . . . .

"The two vessels kept company as far as the low Barents' Islands, where compact masses of ice, driven by south-westerly winds toward the coast, barred all progress for a week. Only on the 21st of August, the ice having exhibited symptoms of breaking up, we parted company, and the *Tegethoff* steamed slowly away toward the north.

"But our hopes were vain. Night found us encompassed on all sides by ice, and for two long and dreary years! Cheerless, and barren of all hope, the first year lay before us, and we were not any longer discoverers, but doomed to remain as helpless voyagers on a floe of drifting ice."

* *The Austro-Hungarian Polar Expedition.* By Julius Payer. Paper read before the Royal Geographical Society, Nov. 10th, 1874.

With the autumn of 1872 commenced an unusually severe frost, which caused the blocks of ice to freeze together again as fast as they were sawn asunder; they were, therefore, unable to extricate themselves from the floe in which they were imprisoned.

This perilous position got from bad to worse. On October 13th the ice broke, and its constant and varying pressure placed them in incessant peril. They had to keep themselves in readiness to leave the vessel at a moment's notice, amid the dreariness of the long Arctic night, and quite ignorant whither they were drifting. The floe which surrounded the vessel was uplifted by the pressure of other ice-fields which forced their way underneath; yet, notwithstanding this additional danger, the ship staunchly resisted the pressure, although the rising of the floe caused her to heel over to port.

Preparations were then made to pass the winter by fortifying the ship with a rampart of ice, in which the surrounding floe caused frequent breaches which had to be carefully watched and repaired.

Regular watches were kept, and all the members of the crew were assigned special duties. Divine service was held on the Sabbath, and a school for the crew established. Meteorological observations were taken regularly. During this winter the crew

suffered much from scurvy and lung diseases, which, however, disappeared with the approach of summer, when all went hopefully to work again.

Of this period Payer says: "On the 28th of October the sun disappeared below the horizon, not to rise again for 109 days. All the birds had left us, and during five long winter months we were obliged to burn lamps in our cabin. For weeks it was impossible to leave the ship. The Polar night was rarely of that indescribable clearness which has been noticed on land, and by ourselves on the coast of Greenland. Whenever a sudden change of temperature caused the expanse of ice to break up, dense vapours arose from the fissures, which not only further obscured the generally inky sky, but likewise produced that immense amount of precipitation which we experienced, especially during our second winter. . . . A hut of coal had been built on the ice, to serve as an asylum in case of the vessel being lost, but it was destroyed by a movement of the ice on Christmas Eve, and we considered ourselves fortunate in being permitted to open Christmas Day itself in undisturbed tranquillity, occupied with thoughts of home."

During the months of May, June, July, and August, 1873, they vainly attempted to saw through the surrounding ice; but the floe on which they were had attained the thickness of 40 feet, owing

to other floes underneath it raising it up, while the neighbouring ice and snow had melted considerably, leaving them thus elevated high above the normal level. They had to support the masts of the ship with strong spars, to avoid being capsized. Their floe varied in size, by breaking up and congealing again from time to time. In August it was five to seven miles in diameter.

"At this time occurred the most memorable event connected with the expedition," the narrative continues. "We had long ago drifted into a portion of the Arctic Sea which had not previously been visited; but in spite of a careful look-out we had not been able hitherto to discover land. It was therefore an event of no small importance when, on the 31st of August, we were surprised by the sudden appearance of a mountainous country, about 14 miles to the north, which the mist had up to that time concealed from our view."

Although within sight of land and anxious to explore their discovery, the ice kept them from approaching it until the end of October, when they succeeded in effecting a landing in lat. 79° 54′ N., on an island forelying the main mass of the land, which they named after Count Wilczek, the originator of the expedition. They were prevented from attempting any important explorations by the second Polar night (125 days), during which they

took the same precautions for safety as formerly. They, however, escaped the sufferings and horrors they had previously endured. Their winter quarters, probably determined with accuracy, were situated in lat. 79° 51′ N., and long. 58° 56′ E. They were also enabled to obtain all the bear meat they wanted, as the animals approached the ship in sufficient numbers. It proved to be a most efficient remedy against scurvy. During the spring of 1874, however, several sledge expeditions were organised. On March 24th Payer, with six companions, and a large sledge which carried provisions and stores weighing over three-fourths of a ton, left the ship for an expedition to the new land. Their once fine team of dogs was reduced to three capable of active service, and the snow-drifts, the opening of fissures on the floe, and flooding of their icy route by the encroaching sea, delayed them much, but they succeeded in reaching the mainland. Payer describes it as equalling Spitzbergen in extent, and consisting of several large masses broken up by numerous fiords, and skirted by an archipelago of islands. The mountains range from 2,000 to 5,000 feet in height, and the glaciers in the depressions are of those gigantic proportions only met with in the Arctic regions. Those they visited "were characterised by their greenish-blue colour, the paucity of crevasses, and

extraordinarily coarse-grained ice." The vegetation is poorer than that of Greenland or Spitzbergen. To this previously unknown land the honoured name of the Emperor Franz Josef was appropriately given.

The sledge party reached the latitude of 81° 37′ N. on April 8th. Returning, the decrease of provisions and want of time made forced marches obligatory, and necessitated a separation of the party. The large sledge with five men was left for the time under a cliff of Hohenlohe Island, while Payer with two others continued the journey with a small dog sledge. Crossing the extensive Middendorf Glacier on Crown Prince Rudolf Land, an immense partially snow-hidden crevasse swallowed up one of the men, the sledge, and dogs. Payer himself escaped by quickly cutting through his harness. He ran back twelve miles to the other party, obtained assistance, and at length with long ropes raised the buried party to the surface. They at last reached the vessel after a hard journey over broken and rotten ice.

The *Tegethoff* had to be abandoned, and a most adventurous boat and sledge journey undertaken. They nailed the flags to the ship's mast on May 20th, and ninety-six days later, after perils very similar to those encountered by Barentsz three hundred years before, reached the Bay of Downs

(lat. 72° 4′), where they were rescued by a Russian schooner. The narrative, when fully given to the world, will most assuredly be one of the most interesting in the whole range of Arctic literature. Payer stands among the foremost of our Heroes.

CHAPTER XXVIII.

Explorations of the Glaciers of Greenland—Difficulties of Spring Travelling—Canine Perversity—The Russian-American Telegraph Expedition—Northernmost America and Asia—Bush's Remarkable Journey—Siberia and Kamchatka—Exploration of Alaska—The Great Yukon.

IN spite of the numerous exploring expeditions, whaling and yachting voyages which have been made to the Greenland coasts, the interior of that country is almost entirely unknown. Kane's remarks on the "deep unbroken sea of ice," which he supposed covered it—the "great glacial river, seeking outlets at every fiord and valley," have been often quoted, but that great explorer knew practically next to nothing on the subject, although his conjectures were doubtless correct. In 1867 Mr. Edward Whymper, brother of the writer, after a lengthened experience among the Swiss Alps, turned his attention to Greenland. He inferred, from his knowledge of Alpine glaciers, that travel could be more easily performed over the comparatively smooth surface presented by this ice-enveloped land, than

over the coast-ice or frozen surface of the sea, dislocated as it is by the motion of the waves, and piled up into hummocks.

After a protracted voyage he arrived at Jakobshavn, North Greenland, on June 16, 1867, and at once made preliminary journeys to find out where the glacier-covered interior was most accessible. The prevalence of pneumonia among both the natives and their dogs rendered it extremely difficult to obtain the services of either. The makers of sledges could not spare time from coffin-making to furnish him with the strong form of vehicle required for such travel. He had to be content with the ordinary light sledge. At length, with five persons, twenty dogs, and three sledges, he started from Jakobshavn, July 20th, 1867, in two boats rowed by ten Greenlanders, to make an attempt to travel into the interior. In two days the party arrived at the end of the fiord which approached nearest to the "inland ice," and were occupied for two days more in transporting their baggage over the few miles of land which intervened between the fiord and the glacier. The ten additional natives then departed in one of the boats, and the other boat was left moored in the fiord to await their return. For three days more they remained encamped at the edge of the glacier, waiting for a favourable change in the weather, the sledges, laden with provisions

for thirty days, standing all ready on the ice. The dogs, as is their nature, did all they knew to vex them, and gnawed incessantly through the lines with which they were fastened, and made rushes at portable property, or bit and fought each other on every possible occasion. If they could have been seized with a unanimous desire to escape in one direction, the party would have been left without a single brute; but fortunately each one wanted to go a different route, and so they neutralised each other's efforts.

"During this time," says my brother,* "I ascended a mountain upon the outskirts of the ice, which commanded a view of the interior. To the north, east, and south, as far as the eye could see, *all* was ice. The land was completely, absolutely covered by glaciers. There was not a peak rising above it, nor even a stray rock upon the surface. In the middle of June, when we first came to this spot, the whole of this immense expanse of ice was covered by snow, and the surface of the snow had a frozen crust which was easy to traverse. The men who then accompanied me, all of them men of experience, said that with the snow in that state we should be able to travel thirty-five or forty miles per day. Anyhow, we could easily walk upon it at the rate of three miles per hour, and

* Paper read before the Alpine Club, March 4th, 1873.

actually did walk eastwards upon it for a distance of six English miles in an hour and a half, and rose in that time to the height of 1,400 feet above the sea. But at the end of July, when we returned, and were ready to start, almost the whole of the snow was removed, and the underlying ice exposed. Instead of seeing, as at first, only a few large crevasses, which, on account of their size, were perceived at a long distance, and hence easily avoided, we now saw thousands and tens of thousands which we should be obliged to cross over. The entire mass of ice was rent by chasms more or less profound. . . .

"Nevertheless as soon as the wind moderated we made a start. I went ahead for a short distance, fixed a stick in the ice to indicate the direction which the sledges were to take, and then ran on, looking right and left to select the best route. It was also frequently necessary to run *back* to break a dog's head, or to kick all the breath out of its refractory body, or to give aid to a sledge which had taken a header into a crevasse, because half its dogs had made up their minds to return home, and to extricate the moaning driver from underneath a mass of bags of pemmican, biscuit, and travelling baggage of every description. In spite of these little drawbacks we got along pretty rapidly for an hour or two, but every moment the crevasses

became more labyrinthine and the sledge-runners weaker. The sledges looked picturesque as they came over the ice pinnacles, rearing up like ships running before a gale of wind. The dogs for a moment still as statues, in the next instant would rush away down the opposite slope with ungovernable speed, and clear the crevasse at its foot with a bound, but the sledge would be jammed fast between the walls of the chasm. Then the dogs, feeling themselves checked, would tug away for a few moments to the right and to the left, and finding their efforts vain, would cease to pull, and invariably commence fighting amongst themselves. By the time that the sledge was righted, the lines with which the dogs were fastened to it had become almost inextricably tangled and knotted. These proceedings were repeated over and over again for three or four hours. Then one of the runners of the largest sledge broke in half. Another runner belonging to one of the smaller sledges was also split along its entire length, and all the remainder were more or less weakened by the battering they had received. As a matter of form I sent three of the party ahead for a mile or two to report whether the ice became better, knowing, however, very well that it was all alike for many miles. When they came back, reporting truly that it was worse rather than better, I ordered a retreat, it being perfectly

evident that to persevere would be only to render our return more and more difficult, and that under any circumstances we should at the most be able to proceed only a few miles further towards the interior. We could only take one of the dogs back in our boat. Eight more were recovered by a boat which I sent for them, three were found dead, one was not discovered, and the seven others came in overland one after another to Jakobshavn, and were killed by order of the inspector."

The experience gained, demonstrated clearly to my brother that it was perfectly possible to travel over the glacier-clad lands of the north with suitable sledges. On some future occasion, when he hopes to renew the work, he will employ men instead of dogs, and start earlier in the season. The interior of Greenland is to-day simply a *terra incognita.*

He succeeded in making a fine collection of the fossil flora of Greenland, thirty-two species of which were new, and under great difficulties gathered a still more important series of ancient native stone and bone implements, so that the journey was by no means fruitless. It may be that the North Pole, if ever reached, will have to be gained in the way proposed by him. Sir Roderick Murchison said of the journey that it was "truly the *ne plus ultra* of British geographical adventure on the part of an individual."

Between the years 1865 and 1867 the writer was attached as artist to an expedition which has received little notice from Arctic authorities, inasmuch, probably, as it has been deemed one made rather in the interests of commerce than of science. Nevertheless the explorer might learn much from the experience of at least *three hundred* brave men who served on the Russian American Telegraph Expedition, in the northern sections, near the Arctic circle. At the period of its inauguration, the Atlantic cables had been failures, and it was then thought by many practical telegraphers and electricians that no long ocean line would be, or could be, successfully laid or worked. We now know the fallacy of those views; but at that period many of the best authorities on that subject thought that a land line connecting the American system by a short cable across Bering Straits with the Russian overland line, ending at the Amoor River, thus connecting America, Asia, and Europe, would be a perfectly feasible project. An expedition was organised, Colonel Charles S. Bulkley being placed in command. Seven sailing vessels and a strong little steamer were employed in the preliminary surveys, and in transporting men from San Francisco, California, the head-quarters, to British Columbia, Alaska, Siberia, and Kamchatka. Smaller flat-bottomed steamers were taken to the Anadyr and

Yukon Rivers, and although the scheme was eventually abandoned on the successful completion and working of the Atlantic cable, something was gained for science.

On the Asiatic and American shores a dozen parties, numbering, in some cases, over forty men each, not only travelled and explored while the temperature was far below the freezing point of mercury, but built houses and erected telegraph poles, having not merely first to clear the deep snow away, but having afterwards to break up and make holes in the soil, then frozen hard as a rock.

Several of the explorers made most remarkable winter journeys in regions bordering on the Arctic circle. Mr. R. J. Bush travelled direct from Nicolaiefski, on the Amoor River, to the Gulf of Anadyr (a little south of Bering Straits). The writer questions whether this "through" journey has *ever* been made before or since.

"Major Abasa,* a very cultivated and energetic Russian gentleman, who had travelled much, especially in the United States, was appointed chief of the Asiatic explorations proposed to be made by our company. On the 8th August of the same year, that gentleman, in company with Messrs. Kennon, Mahood and Bush, arrived at Petropaulovski, on the *Ochotsk* from San Francisco, our

* "Travels in Alaska," &c., by the Author.

head-quarters. The two latter explorers were immediately despatched, by sea, to the Amoor River, whilst the Major, Mr. Kennon, and a third *employé* of the expedition, made their preparations for an early start, their destination being Ghijega (Ghijinsk on old maps) at the head of the Ochotsk Sea. This they proposed to reach by land, *viâ* Kamchatka.

"Major Abasa and his companions left Petropaulovski on the 25th of August—a month which in Kamchatka is often extremely warm, and when there is no snow whatever upon the lowlands. They followed the eastern shore of the peninsula till, at the village of Sharon, they reached the Kamchatka River—a tortuous stream of no great size, which has been already mentioned in connection with the narrative of Bering's life. Their route so far was principally over undulating plains, covered by much moss, grass, and underbrush, but with a limited amount of overgrown timber. It is one of the peculiarities of Kamchatka that the forests get thicker and the trees larger the farther north you proceed. It is, moreover, constantly stated, and apparently believed also by the foreign residents in the country, that the soil is warmed by the volcanic fires beneath, and that the cultivation of grain in the brief summer is thereby rendered impracticable, as it sprouts before its

time. It is known that in winter the snow, in places, sometimes melts where it is in contact with the earth, while a foot or so above it there is the usual wintry covering. This snow, undermined as it were, frequently tumbles in when travellers are passing over it, and they 'find their level' a little lower than they expected.

"After following for a short distance the Kamchatka River, the party turned westward to cross a much more rugged country, in order to reach the village of Tigil, on the coast of the Ochotsk Sea. Here they met with many difficulties. Their route was an alternation of rocks and swamps, with much rotten snow overlying them, and even the sure-footed little Siberian pack-horses, which were well loaded with the personal effects, &c., of the party, were constantly in trouble. Now they were stuck in sloughs of unknown depth, now they were half carried away by the swift mountain-streams they were attempting to ford, and now again they came down on their knees or haunches when attempting to clamber over the slippery rocks. But at length they reached Tigil, which, by the route they had travelled, was 1,200 versts (800 miles).

"From Tigil, Major Abasa wrote to the 'Ispravnik' (civil governor) of Ghijega, notifying him that he was on the way, and asking him to issue orders to the inhabitants under his jurisdiction to

render every assistance. The letter was sent to Sessnoi, the last Kamchatdale village on the route, and from thence repassed from one tribe of Koriaks to another, until it reached its destination. Abasa had taken the precaution to send on word that he would 'remember' any natives who had facilitated the delivery of his message, and the letter therefore reached Ghijega very quickly. The Ispravnik immediately issued the necessary orders. From Tigil to Sessnoi the party travelled by or near the sea-coast, and reached the latter place successfully. North of Sessnoi the route was known to be extremely difficult; they therefore divided their forces—the Major and one of his men (with natives) proceeding in a whale-boat and skin canoe by sea, whilst Kennon attempted to take the pack-train, &c., across the mountainous coast. They, however, were unfortunate at this part of the trip; the party on the sea experienced bad weather, whilst Kennon found the lately fallen snow too deep and soft for his horses. They therefore returned to Sessnoi to wait till the season became a little more advanced, and employed their time in purchasing dogs from the natives, and in the manufacture of sledges, &c. They found great difficulty in inducing the Kamchatdales to part with their dogs. A sum of 200 roubles (over £30) for a team of ten dogs was often refused.

"While in Sessnoi, Major Abasa had some very interesting interviews with chiefs of the Koriak and Tchuktchi tribes. It was the period of their annual migration southward, where they go to hunt the sable on the plains and in the mountains of Kamchatka. In January they gather around Tigil, to exchange their furs for tea, sugar, coffee, powder, lead, &c. Bad weather detained the party in Sessnoi, and by a judicious distribution of presents they succeeded in making them communicative. They advised the Major in proceeding from Sessnoi not to follow the sea-coast, but to incline to the eastward and pass through a country but little known to the whites. Everything being ready, the party left Sessnoi on the 20th of October, passing over the mountains and finding a very bad road. Four days later they reach Bodkaguernaya, having found the temperature at night from forty to forty-five degrees below zero. North of Bodkaguernaya the mountains gradually diminished, and the country was found to be cut up into plains covered with moss, and ridges on which there was a growth of low bushes that sometimes attained the dignity of small trees. Viewed from an elevation, the whole region had a very desolate appearance. The country was found to be inhabited by the Koriaks, some of the tribes wandering from place to place, and the others remaining in fixed localities. The

wandering Koriaks were kind, hospitable, and peaceable, but the settled Koriaks were the reverse. A stronger and more efficacious representation of the Russian Government was needed among them. The Koriak country and the Ghijega and Anadyr districts are all supposed to be under the direction of the Ispravnik at Ghijega, who has only twenty-five Cossacks under him, and neither time nor ability to visit a hundredth part of his immense territory.

"Major Abasa exchanged his dogs for reindeer at the first Koriak camp, a hundred versts from Bodkaguernaya, and travelled with the latter animals to Kammenoi, where the party arrived on the 16th of November. The Major wished to go to Anadyrsk from this place, but the natives refused to take him there; they were willing to go to Ghijega, and in fact had received orders from the Ispravnik to go there if the party desired it. The Russian traders were at Kammenoi, on their way to the coast of Bering Sea, and the Koriaks were anxious to accompany them, but were ordered not to do so until after Major Abasa had proceeded on his way. They at length, after a harassing journey, reached Ghijega on the 22nd of November, where the Major established permanent quarters. He had thus traversed the whole peninsula of Kamchatka."

Mahood and Bush's journey from the Amoor northward is thus described:—

"Governor Fulyhelm sent to the Tunguse, a hundred versts to the northward, ordering them to procure reindeer for Captain Mahood's expedition. Those were to be forwarded to Orelle Lake, north of the Amoor, and to this point the party proceeded when all preparations were completed. There they found the Tunguse, who were awaiting them with twenty deer. After a little delay in arranging the loads, the expedition started; each of the men riding a deer, while twelve of the animals were required to carry the baggage and provisions. The saddle for a reindeer is placed on the animal's withers, the back not being strong enough to sustain the weight of a man. The saddle is a mere pad and has no stirrups, so that it requires constant care to retain one's balance—a novice in this kind of travel being sure to get many tumbles before he learns to manage his new beast of burden. The deer is guided by a halter and a single line. One is required to exercise considerable dexterity to mount a reindeer without the assistance of stirrups. A staff is always used to assist one in mounting. The pack-saddle is placed on the shoulders of the animal, and the reindeer will carry a load of seventy-five to one hundred pounds in this way. A Tunguse rides one deer, and leads a pack-train of four to a dozen animals. . . . .

"Between the Amoor and Ochotsk there is

not, nor has there ever been, any kind of a road; but the guides and travellers follow whatever route they think proper, always keeping their general course in view. The reindeer go through the forest, over hills and along wide stretches of barren land. The rivers are forded when shallow, and when too deep for this, rafts are built for men and baggage, while the deer are forced to swim over. In winter the ice affords a secure foothold, and for this reason travelling is much better in the cold season than in the summer. Reindeer food grows on most part of the route; so that in summer or winter it is only necessary to turn them out at night and they will be found well fed in the morning.

"Captain Mahood's journal makes frequent mention of crossing rivers, climbing over mountains, and traversing forests and *tundra*, or long stretches of barren land. Several times he was delayed by being unable to procure a sufficient number of deer for his purposes, some having 'given out,' and the term for which others were employed having expired. Sometimes guides were lacking, and it was necessary to send a considerable distance to obtain them.

"Ochotsk is a place of which the glory has somewhat departed, owing principally to the establishment of the newer town of Nicolaiefski. It is said to have about 500 inhabitants—if you count

the dogs, who outnumber the human part of the population. Its most interesting associations are those connected with the narrative of Bering's voyages."

The great Yukon River, in Northern Alaska, was explored for 1,800 miles from its mouth, the writer taking an active part in this division of the surveys. This great river, at its lower course, has many of the characteristics of the Mississippi, opening out, as it does, into shallows—with a channel—from one to five miles in width. It is frozen up for eight months of the year. Since the writer's visit it has been navigated by steamer 1,200 miles, as high up as Fort Yukon. On eleven days of the winter of 1866-7 the thermometer fell below minus 40°—the freezing point of mercury; and on one occasion stood at minus 58°. With the exception of frost-bite, a very small amount of scurvy, and one death from natural causes, no casualties were reported from these regions. One of the vessels employed had been crushed in the ice at Anadyr Bay, but no lives were lost.

CHAPTER XXIX.

Discovery of the North Pole claimed by an English Sailor—A Survivor of the Franklin Expedition—Journey to the Pole—A Warm and Fertile Region — Fields and Villages — Domesticated Walrus — Query, a *canard*.

IT is not very generally known, even among Arctic authorities, that the discovery of the North Pole has been already claimed! The following extracts purport to be from the manuscript of an English sailor, stated to have been found enclosed in a sealskin cover, the whole picked up in a small water-soaked log, having a piece morticed into its side. The log is said to have been found in Hudson's Bay by an American sailor in 1866. The story is pretty evidently a concoction, made, however, by a man who knew much of the Arctic regions. The following is only a part of this sailor's "yarn":—

"I have discovered a new continent.

"My name is North, and in justice it should be called Northland.

"Being somewhat desirous, for private reasons, of

leaving England, I shipped before the mast on the *Erebus*, under command of Sir John Franklin, on an Arctic voyage. I shipped under an assumed name, but my true name is William North, and this country ought to be called Northland. I was born in England on the 13th of January, 1813. I have heard my father say he was of Danish blood, and I know my mother's grandfather was a Swede. Before winter we reached a latitude of 77 degrees north in Wellington Channel. This was the highest the ships ever got. Captain Franklin died of brain fever in June, 1847. We abandoned the ships in April, 1848, Captain Crozier deciding to go to 90 degrees south, hoping to reach Hudson's Bay, our provisions being exhausted. All but myself perished. I lay on the snow insensible, when I was rescued by some Esquimaux, and lived with them for several years. From my observations I became convinced there was a habitable land further north. The birds and animals often came in large numbers from that direction, and then suddenly returned. The Indians all had a superstitious fear of going far in that direction, and none who did so were ever seen again. It was supposed that they perished of cold and starvation, but more than one old Esquimaux told me they were killed by the inhabitants beyond the mountains.

"As I could never get back to England, even if

I had desired, I concluded to push to the north, and reach the North Pole, or perish in the attempt. No one would go with me, so I went alone, taking two dogs and a boat which I had rigged on runners. The Indians said I would never return, and God knows I never wished to.

"This was on the Greenland shore, as far north as the ice mountains known to navigators as the glaciers. It was the early spring of the year 1860 (according to my reckoning); the season was the most favourable I had ever seen, and in two months I must have travelled fully 600 miles, myself and the dogs living on game and seals killed by the way.

"My theory was, that I should suddenly emerge into a warm and fertile country as soon as I should reach the point at which, according to all the books, the earth was flattened, and on which the sun in summer never sets. It seemed to me that if the sun should remain for six months above the horizon, without any nights, the effect would be to give a very warm climate. I had a good silver watch, of which I had always taken the greatest care, and I kept a record of every day so that I should not lose my reckoning. I will not dwell on the perils and privations of my journey, except to say that, with streaming eyes, I had killed my faithful dogs to save me from starvation, when, on the 20th of June, 1860,

according to my calendar, I passed out of a crevice or gorge between two great walls of ice—just in time to escape death from a falling mass larger than a ship—into an open space of table-land, from which I could see below me, and stretching away as far as the eye could reach, a land more beautiful than England or any other country I had ever seen.

"I could see cultivated fields and villages, and I fell upon my knees and thanked my Creator that I had been spared through so many terrors and trials to make this great discovery.

"When my feelings had become calmer I descended the mountain, at the foot of which I came upon a village in which there was a great crowd of people, who seemed to be celebrating a carnival or festival. They were all dressed in apparent disguise, and therefore I suppose my singular appearance attracted no particular attention, so that I was able to make my observations unobserved. The sun was what would be called in England about two hours high, and went around the entire sky, keeping the same distance from the horizon. I took notice of a high mountain-peak, by which I could keep track of the revolutions, and not lose my reckoning. Being clad in skins, I was greatly affected by the heat, and also being overcome by hunger and excitement, I fainted and fell.

"How long I was insensible I shall never know,

but I have allowed two days. I am satisfied that I owed my life to my white hair and fair skin, as this is the complexion of the superior race, whom it is a high crime to injure in any way. I was probably taken for one of the priesthood in disguise, for when I became conscious, I had been taken into the interior, and was confined in a room, carefully attended, but also closely guarded. I was fed on choice delicacies, and treated with great consideration. The priest who had me in charge at once attempted conversation, but this was of course impossible. They had taken away my watch, knife, and pistol. The priests had very intelligent countenances, and, as I soon learned, were high dignitaries in the Government. The curious things which I had in my possession must have convinced them that their prisoner was worth keeping alive. I motioned for my things, which were returned to me, and I explained their use by signs, in which they were greatly interested. The watch pleased them the most, and they easily understood the division of time. When I drew a figure of the earth, with the parallels of latitude and longitude, pointing out the position of the various countries, including their own, they were greatly astonished, and treated me with increased kindness."

The great chief, the Jarl, received him kindly, and he asserts that the language spoken is similar to

Swedish. He writes that the people are numerous, and live happily and contented. He goes on to say:

"The walrus and the seal are domesticated, and used for towing barges and canoes in the lakes and rivers.

"Their arts are probably about like those of northern Europe a thousand years ago. They have axes, and saws, and spears, and bows with arrows iron-pointed. They have no machinery, but do everything by human labour. They get out timber, hewn square or otherwise, of any desired length, and I have frequently seen cottonwood pieces one hundred feet long by two feet square. They have grain in abundance, being wheat, maize, and barley. They make a drink of barley, which is intoxicating. They have potatoes, apples, plums, grapes, and many varieties of berries. Geese, ducks, and swans are very numerous, and are domesticated to some extent, while at some seasons of the year flocks of wild fowl fly over in such numbers as to obscure the sun. Fish abound in swarms, and of these there are many varieties not known elsewhere, but the salmon is the general favourite.

"The Jarl's palace is of huge blocks of stone, like those of the Pyramids in appearance. Glass is unknown, and curtains or drapery takes its place in the windows. Oil-lamps are used, except in the palaces of the nobility and in public places, where

an electric light, much brighter than gas, is substituted. Precious stones, as also gold and silver abound. Fine diamonds are frequently seen. Gold and silver, hammered into oval-shaped pieces, are used for money.* Very excellent cloth is made from the wool or hair of the musk-ox, and flax is raised from which a good quality of linen is made.

"The Jarl drives out with four large moose, or mastodon, attached to his chariot, which are harnessed in pairs, the inside horns of each being cut so that they will not interlock. His pleasure-barge is drawn by walruses.

"There are a number of sculptors who are high dignitaries and have no intimate connection with the priesthood. In the winter their services are in constant demand at the mountains, where they carve palaces and cathedrals out of icebergs, which are visited by immense crowds. When lighted up by electricity these structures are the most beautiful that can be conceived. . . . The softness of the material enables the sculptors to build their edifices in an incredibly short time. Often a large gang of

* The writer does not wish to endorse this story. Nevertheless there are points about it which show that the author of it knew much of Arctic history. Sir Martin Frobisher, Sir Humphrey Gilbert, James Hall, Samuel Hearne, and others went to the Arctic, or regions bordering on the Arctic, to search for reported mines of gold, silver, or copper. As to the allusion to diamonds, rock crystal has been so often mistaken for them that no remark is necessary.

workmen, working under a sculptor, will build one of them in forty-eight hours. They are of course melted down by the heat of the sun every summer, although they last till July or August before entirely disappearing, and even as long as the vestige of them remains they retain enough of their original shape to look at a distance as beautiful as ever. These sculptors also make the ice idols or demons for the June carnival.

"The dress of the natives in winter is of skins and furs, the upper class wearing furs of the most elegant description; the ladies often wear the skins of swans and eider-duck, dressed in some way with the feathers on.

"The priests have drawings or rude maps of the country, of which the common people are kept in ignorance, but which they have shown to me.

"I cannot give very accurate information, but I know that Greenland (so-called) extends to the Pole and far beyond it. Also what is called Smith's Sound is no sound at all, but a great river into which all the lakes and rivers of this country empty their waters. The natives call it 'Isk.' Where it enters the frozen mountains it becomes a succession of cataracts and rapids, into which glaciers are crowding perpetually from either shore, and it is utterly impassable either up or down. The interior lakes and rivers are smooth and beautiful sheets of

water, the country being level. There are no ships, nor any boats larger than a ship's yawl, and these are frequently towed by tame walruses. Tame seals are also frequently attached to smaller boats, and driven for pleasure. Stone is plenty, and there are large quarries of very fine granite. The art of brick-making is known, and many of the better houses are built of the latter material, but the larger number are of logs hewn square, and from one to two feet in diameter.

"I have now been here about eleven months—this being, according to my calendar, the 22nd day of May, 1861—and the heat is growing somewhat oppressive, especially to me after my long pilgrimage among the Esquimaux; but I never should have discovered this country if I had not thus become inured to cold and starvation. Even as it is I can only regard it as a miracle. I have no desire to return to England, nor could I do so if I desired it ever so much. If, with all the advantages England possesses, she cannot reach this country, of course these people cannot pass the frozen desert of hundreds of miles which separates them from other nations."

The author can hardly write seriously of this yarn, and does not imagine that when Nares gets to the North Pole, William North will be found there. Nevertheless the story has some ingenuity about it.

CHAPTER XXX.

The Arctic Expedition of 1875—The *Alert* and *Discovery*—Captain Nares' Views—Sir Leopold M'Clintock on Sledge Travelling—Improvements adopted—Lady Franklin's Letter—Allan Young's Expedition — Voyage of the *Pandora* — Closing Remarks — True Heroism—Our Heroes.

THE Arctic Expedition of 1875 has been the object of very general interest, and the journals have spared us the necessity of a lengthened description of the vessels. The *Alert* is a Royal Navy steam-sloop of 751 tons and 100 horse-power, and is the leading vessel of the expedition. She was greatly strengthened, and carries every modern appliance for the comfort and convenience of the men. Her Captain, George S. Nares, and Commander A. H. Markham, have both had a considerable Arctic experience. The *Discovery*, the second vessel of the expedition, is a Dundee whaling-bark, with auxiliary steam-power, purchased by the Government, and is under the command of Captain H. F. Stephenson. The expedition, all told, consists of about 120 men, and the crews have been selected from the very pick of the

navy. A store ship, the *Valorous*, accompanies them to Disco, Greenland.

Captain Nares, shortly before starting, expressed his views on the prospects of the expedition. He said that when once the Arctic Expedition had started on its voyage into regions from which no information whatever could be obtained, there would and must be an ever-increasing anxiety as to its position and prospects. Many of the experiences of the search for Franklin would be repeated, the only difference being that from what was called "the edge of the ice" they then travelled due west, while now from the same edge they would travel due north; but they would have the same life to lead—the ice would be the same, the temperature the same, and there would be, he believed, no more difficulties in going north than there had been in going west. He referred to the discoveries first made by Sir Edward Parry, and the perfection to which Arctic travelling had been brought by Sir Leopold M'Clintock, and said that the danger of the present expedition became mere child's play as compared with what previous explorers went through. It was true that the ice still remained as strong an enemy as ever, but their chances of returning home after an accidental crush in the ice were now reduced to a certainty. He pointed out the difficulties to be encountered in Arctic travelling

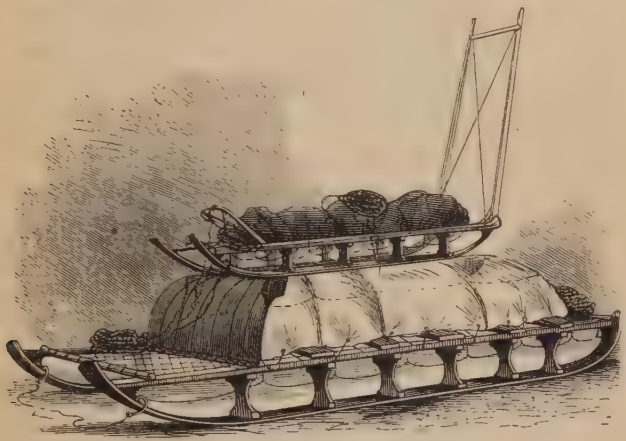
from sea, ice, wind, current, and sand. They would wait until the ice was melted as much as possible, and would not make the attempt to get through Smith Sound until nearly the end of August, which was the only navigable month during the year in the Arctic regions. Once through, they would be well into the ice. The gallant captain detailed at great length many interesting experiences of Sir Leopold M'Clintock's expedition in search of Sir John Franklin, and the discovery of the missing ship *Investigator*—describing the system that governed spring and autumn travelling, tent life, and other matters—and said the greatest cold they experienced was 62° below zero, which was equal to 94° of cold. When the forthcoming expedition once got through Melville Bay it would be pretty certain to get up to the point reached by the Americans, if they experienced equally fine weather; but this effort would entirely depend upon the season. Should they be fortunate enough to reach 82°, where the Americans got easily, as Hall did—to which position he knew the land extended—there was every prospect that they would be able to get 500 miles further, and be still cut off from the cold. If they then found land, they would only be able to travel round the shores; but if they found water, he should try and get one of the ships up there. The sea ice would be a great trouble to them as it

thawed very rapidly, and was too thin to work a sledge upon and too thick to work a boat upon. The work was very severe, and nothing but a sense of duty would carry them through it. Every man knew it must be done, and not one would think of giving in. Previous expeditions sent by way of Smith Sound, where the forthcoming expedition would go, had not been sufficiently equipped for travelling. One great trouble to be feared was the southerly current; and if they could not get into a good harbour before September it was very possible they would drift ignominously and helplessly homeward with the current. With God's help they would do their best, and depend upon it they would not fail through want of perseverance.

Sir Leopold M'Clintock, Admiral Superintendent of Portsmouth Dockyard, was indefatigable in his attention to every detail, both in connection with the vessels, and the outfits intended for land travel. No expedition has ever left our shores better provided in every sense, and great things may reasonably be hoped from it.

M'Clintock is a great authority on all Arctic subjects, and while engaged in active service helped more than any one else to bring sledge-travelling to perfection. In a recent paper read before the Royal Geographical Society he said that "whereas all other geographical discoveries were performed either

by land or by water, modern Arctic exploration into the higher regions of the frigid zone was prosecuted independently of either, and the ice, which arrested the progress of the ship, formed the highway for the sledge. In early Arctic voyaging, the ship alone was relied upon for penetrating into unknown seas. In the second and third voyages of



SLEDGE FOR THE 1875 EXPEDITION.

Parry and the second voyage of Sir John Ross, between 1821 and 1834, sledging was commenced, and a number of short journeys were made, mainly by the assistance of the Esquimaux, whose methods were closely observed and more or less imitated. But their seamen had not yet familiarised themselves

with the idea that it was quite possible for well-equipped Europeans, not only to exist, but to travel in an Arctic climate as well as the Esquimaux themselves; and it was not until the Franklin Searching Expeditions were sent out, between 1848 and 1854, and thus a motive far stronger than that of geographical discovery was supplied, that men seriously reflected upon the possibility of any extensive exploration on foot. Sledge travelling was limited to the spring months. It could not be commenced until there was sufficient daylight; it could not be continued after the summer thaw had denuded the land of snow, or rendered the sea-ice unsafe, therefore it could seldom be prosecuted with advantage before the month of April or later than June.

"It was under the direction of the late Admiral Sir James Ross, the distinguished commander of the Antarctic Expeditions from 1818 to 1834, that their sledges and tents were made in 1848; and these designs, with comparatively slight modifications, had continued in favour in all subsequent expeditions. The sledge which experience had proved to be the most suitable was a large runner-sledge. The runners were rather broad—three inches—and they stood high, carrying the baggage about a foot over the ice. An average-sized sledge was 3 ft. wide and 10 ft. long, and was drawn by seven men. It was constructed with only just so much

strength as was absolutely necessary, since every pound of weight saved in wood and iron enabled so much more provisions to be carried. It must be borne in mind that Arctic work was not merely marching, but a sledge, often heavily laden, had to be dragged the entire distance. The clothing of the men was a subject of difficulty and importance, and must be suited to the temperature under which they travelled. In the Government Searching Expeditions they gained sufficient experience of sledging with dogs to convince them of their value. For instance, during the spring of 1854 their only team of dogs was kept constantly at work, and, without counting occasional short trips, they accomplished, in 60 days' travelling, 1,830 miles, affording an average rate of 30 miles, their sledge, on the whole, being rather lightly laden. In the spring of 1859, there were sent out from the *Fox* three divisions of search, each consisting of six men and six or seven dogs. Each division accomplished about 1,000 miles of distance, and men and dogs worked harmoniously together for the lengthened period of nearly 80 days. Dogs were most useful when despatch was required, or when the temperature was so low that it was undesirable to expose more men than was absolutely necessary. All the experience gained in the many memorable series of voyages had been brought to bear upon the equipment of the Expedi-

tion of 1875, and it was further intended that dogs and snow huts should be used to a considerable extent. As on former occasions, so now also, upon the persistency of their efforts in sledging would mainly depend the amount of their success. To sledging they were indebted for almost all their modern Arctic achievements. To it they confidently looked as a means of escape where neither ships nor boats would avail. And here he would ask permission to quote from a paper which he wrote some years ago: 'It is now a comparatively easy matter to start with six or eight men, and six or seven weeks' provisions, and to travel some 600 miles across snowy wastes and frozen seas, from which no sustenance can be obtained. There is now no known position, however remote, that a well-equipped crew could not effect their escape from, by their own unaided efforts.'

"He had the great satisfaction of learning from Lieutenant Payer, when he recently visited this country, that these words afforded very great encouragement to him and his companions when their ship became inextricably beset, and when she was finally abandoned in the 80th parallel of latitude. To sledging they owed many thousand miles of coast line discovered and explored; and, finally, the recovery of the sad but glorious record of the heroic deeds of Franklin's

expedition. To sledging they would owe the principal share of whatever work might be accomplished by the brave men who had recently left them. What their measure of success might be none dared to predict. The public mind, perhaps unaware of the formidable difficulties which surrounded it, pointed to the crowning glory of reaching the North Pole—that goal of so much ambition and endeavour. This consummation was possible, and might the high distinction be theirs.

"But it was only fair to state that so little practical improvement could be effected in the equipment of travelling parties that they could not reasonably expect that the sledging exploits of 1853 and 1854 would be eclipsed by those of 1875. However, what had been done would be done again if the state of the ice was at all similar; but of this they were, of course, uncertain. This was a grave uncertainty. They knew that an open sea had been found at no great distance off the Siberian coast, and that it rendered nugatory all Wrangell's attempts to sledge northwards. Yet it was worthy of remark that Wrangell was one of the first, if not the very first person to suggest an attempt to reach the North Pole from Smith Sound. The reliable indications of a similar state to that which he experienced had been found everywhere northward of the islands and shores of America. They had

occasionally been startled by announcements of open water, but a little further exploration had proved these iceless spaces, or Polynias, to be very limited in extent, and solely due to local and apparent causes, such as currents or tides, and they had only been found in straits, and not to seaward of an open coast line. Captain Nares had this advantage over Wrangell, that he would be provided with boats fit to navigate a partially iceless sea, should his sledging be interrupted by water. Now, they knew that the failure of Parry's attempt to reach the North Pole, in 1827, was largely due to the great weight of his boats, and the consequent difficulty of driving them over the ice. This error they had attempted to correct by supplying boats of considerably less than half the weight of Parry's.

"But Arctic explorers were well aware that there was one condition which barred all progress, and that was ice too thin to sledge over. It was hoped that their explorers might not meet with any such insuperable difficulty. They knew full well that ordinary obstructions would but strengthen their determination to solve the great geographical problem committed to them, and they had the satisfaction of knowing that this national undertaking could not be placed in abler hands. They would carry with them the assurance that they had not only the

country's heartiest wishes for their success, but its entire confidence in their resolute endeavours to deserve it."

The late Lady Franklin, whose name will endure as the very type of womanly devotion and fortitude —as a heroine, worthy to take place with our greatest heroes—had always taken the greatest interest in Arctic exploration. The subjoined letter from her addressed to the late Sir Roderick Impey Murchison, at a period when the present expedition was a matter in embryo, will very plainly show this :—

My dear Sir Roderick,

Although I have little doubt you know from some of our mutual friends that they have written to me on the subject of the Polar Expedition, yet I cannot leave it to them alone to tell you how very deeply I sympathise with the proposed effort, and how earnestly I wish it may be realised. For the credit and honour of England, the exploration of the North Pole should not be left to any other country. . . . . .

I am sending you these lines because I do not wish you to think it possible that my interest can flag in anything connected with Arctic enterprise; and though, at first, sad memories of the past made me feel some sickness of heart at the revival of the question, I have struggled against that weakness, and overcome it. It would, indeed, be unreasonable, and much to be deplored, if the fate of my dear husband and his companions were to be made an official objection to all future Arctic exploration. They met with the unhappy end which too often befalls the pioneers of tentative and dangerous enterprise, but they rest alone in their awful calamity. Every succeeding expedition sailed with better ships, better equipments, better charts, better supports, and with ever-increasing knowledge; and thus it has happened that no naval service on the face of the globe exhibits on

the average so few casualties as that in the Polar Seas. You have justly said that "in the proposed expedition no such calamity can be dreaded, for it has no analogy to the case of Franklin."

JANE FRANKLIN.

Lady Franklin's noble sentiments are shared by all Englishmen and women, who will watch the progress of the expedition with the greatest interest.

That untiring and generous lady, assisted by Captain Allan Young and by James Gordon Bennett, Esq., the proprietor of the *New York Herald*, at whose expense Stanley was sent out to Africa to discover Livingstone, despatched just before her death a screw schooner-yacht, the *Pandora*, for a private expedition to the Arctic circle. The selection of a tried and competent commander, crew, and assistants, a liberal supply of all that capital and thoughtfulness, unfettered by official red-tapery, could supply, promise for this enterprise a brilliant and fortunate result. Captain Allan Young, who, it will be remembered, was a volunteer on M'Clintock's expedition, has emerged from retirement to take the command.

"The *Pandora*," said the *Times*, just before the departure of the expedition, "was originally built in 1861 as a naval despatch vessel, and was purchased from the Government for a Polar expedition. She does not greatly differ from the *Discovery* either as regards shape, size, or rig; and

though somewhat worn in places, the weak parts of her timbers have been strengthened by a number of sheathings of American elm, while her boilers and machinery generally have been thoroughly renovated. She has been well provisioned and equipped for her adventurous cruise, which may possibly last over eighteen months, though it is expected she will return earlier. She carries some of the sledges which formerly belonged to the *Fox*, and others have been constructed by Mr. White, of Cowes, who has also supplied her with six boats, the exact model of those built by the same gentleman for the *Alert* and *Discovery*. While her bunkers contain upwards of 100 tons of coal, her decks are crowded with barrels of pork and provisions, and her hammock nettings and every conceivable space above and below have been converted into magazine stores. She is also well provided with scientific instruments, sounding apparatus, guns for seal hunting, boats and harpoons for whale chasing, &c. The *Pandora* carries out once more to the region of perpetual ice the organ, originally the gift of the Prince Consort, which has frequently done its part to while away the tedium of a Polar winter, and which last performed service in the *Fox* during its successful voyage in search of the remains of the Franklin Expedition. The ship's company of the *Pandora* consists of thirty-two

souls, all told, and many of the crew are familiar with the special work which lies before them. The captain has earned for himself an honourable reputation as an Arctic explorer, and has given his name to a Polar headland. Mr. Toms was out with the captain in the *Fox;* the captain of the hold and the cook have battled with the ice before, while the interpreter is the veritable Esquimaux Joe who followed Hall, of the *Polaris*, up to 82° 16′ N., and who believes that more information of the Franklin Expedition is to be obtained by a further investigation of King William's Land, which the *Pandora* will attempt. In addition to Lieutenant Lillingstone, who has withdrawn from the Royal Navy, the following officers go out with the ship :—Lieutenant George Pirie, a navigating sub-lieutenant of the Navy; Dr. Horner, who, besides attending to the health of the crew, will superintend the meteorological investigations; and Lieutenant Baunau, of the Dutch Navy, who will have charge of the botanical and marine researches."

A German expedition was also to have left this year (1875) for the Northern exploration, but as far as the writer can learn it is postponed for the present.

The North Polar region will, doubtless, now receive that careful examination which was impos-

sible on the older expeditions. To an enterprising and maritime people like our own, all explorations, either by land or water, have a special interest. The many unsolved problems connected with the North Pole add scientific importance to the present expeditions.

"Maritime, and especially Arctic enterprise," says Mr. Markham,* "runs, like a bright silver thread, through the history of the English nation, lighting up its darkest and least creditable periods; and even giving cause for just pride, at times when all other contemporary events would be sources only of shame and regret. Glorious indeed is the history of those northern voyages which made illustrious the names of so many naval worthies of past days. . . . .

"The undiscovered region is bounded on the European side by the 80th parallel of latitude, except where Scoresby, Parry, and a few others have slightly broken into its circumference; but on the Asiatic side it extends fully to 75^0 and 74^0, and westward of Behring's Strait our knowledge is bounded by the 72nd degree. Thus, in some directions, it is more than 1,500 miles across, and it covers an area of 1,500,000 square miles. The parallel of 70^0 skirts the northern shores of the continents of Europe, Asia, and America, and

* "Threshold of the Unknown Region."

between 70° and 80° there is an intervening belt separating the known from the unknown, which, in different directions, has been more or less explored by the intrepid seamen and travellers of various nations. . . . .

"Unlike the ocean-girt region of the Southern Pole, the Northern Polar region is surrounded, at a distance of about 1,200 miles from its centre, by the three great continents of our planet, while the enormous glacier-bearing mass of Greenland stretches away towards the Pole for an unknown distance. There are three approaches by sea to this land-girt end of the earth: through the wide ocean between Norway and Greenland, through Davis' Strait, and through Behring's Strait—one wide portal and two narrow gates." It is to one of these latter—that by Davis' Straits, Baffin's Bay and Smith Sound—that the explorers of the present expeditions direct their course.

In the course of our narrative how many examples have we not met showing the very highest qualities of heart and mind on the part of our Arctic Heroes! The perilous nature of the service is certainly conducive to seriousness in the conduct of life, and we have seen that by far the larger part of the commanders have taken a more than ordinary interest in caring for the welfare of their men.

We read again and again of attention to the duties of the Sabbath—of schools organised, and harmless amusements provided for the ships' companies. And for the active exhibition of *practical* religion, some, nay, most of our great Arctic explorers have been most distinguished. Several have indeed been men of extraordinary goodness, thoughtfulness, and self-denial. Undaunted Sir Humphrey Gilbert; good old Barents; kind-hearted Parry, and noble Franklin; zealous Back, and pious Hood; resolute M'Clure, brave M'Clintock, and the other volunteers who came forward in Lady Franklin's hour of need; Dr. Kane, ready to do, dare, or perish for his men; the resigned, cheerful, and philosophical Germans, who have exhibited in various ways qualities of the very highest nature.

Heroism can exist anywhere, but its brightest opportunities are at the battle front. Its synonyms are courage, daring, fortitude, gallantry, nobility, valour. Its very existence requires self-sacrifice, untiring exertion, and unflinching perseverance. In *its* bright lexicon "there's no such word as *fail*." It dares "do all that may become a man," and can do nothing else.

Our task is finished.

The Heroes—so many of them *our* heroes—of the Arctic—need no further tribute at these hands. Their deeds speak for them, and will speak to the

end of time. The brave men who have just now left our shores, once more to test the perils of the North, feel that the eyes of the civilised world follow them. England knows—not merely *expects*—not *this*, but every day, each man "will do his duty." God speed them on their noble mission, and bring them safely once again to their well-loved homes!

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